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1 of 2
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AMRL-TR-75-50
Volume 100

2



USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK

Volume 100

C-121G Aircraft, Near and Far-Field Noise

MAY 1977

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AEROSPACE MEDICAL DIVISION
AIR FORCE SYSTEMS COMMAND
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433

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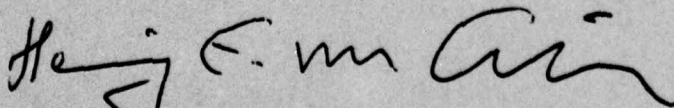
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FOR THE COMMANDER



HENNING E. VON GIERKE

Director

Biodynamics and Bioengineering Division
Aerospace Medical Research Laboratory

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ference level, perceived noise level, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Far-field data measured at 19 locations are normalized to standard meteorological conditions and extrapolated from 75-8000 meters to derive sets of equal-value contours for these same seven acoustic measures as functions of angle and distances from the source. Refer to Volume 1 of this handbook, "USAF Bioenvironmental Noise Data Handbook, Vol 1: Organization, Content and Application, AMRL-TR-75-50(1) 1975, for discussion of the objective and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc.

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PREFACE

This report was prepared by the Biodynamic Environment Branch, Aerospace Medical Research Laboratory, under Project/Task 723104, Measurement and Prediction of Noise Environments of Air Force Operations.

The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report, Mr. Jerry Speakman and Mr. Robert Lee for their assistance in acquiring the raw data, Mr. Keith Kettler, Mr. Henry Mohlman and Mr. David Eilerman of the University of Dayton for assistance in the mechanics of data processing, and Mrs. Peggy Massie and Mr. Mike Patterson for assistance in typing and preparation of the graphics.

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INTRODUCTION

The USAF C-121G is a cargo aircraft powered by four R-3350-93 reciprocating engines. The aircraft was manufactured by the Lockheed Aircraft Corporation and the engines by Curtiss-Wright.

This volume provides measured and extrapolated data defining bioacoustic environments produced by this aircraft during ground runup operations. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with ground runups of the C-121G aircraft.

This volume is one of a series published by the AMRL under the same report number (AMRL-TR-75-50) as a multi-volume handbook that quantifies the noise environments produced at flight/ground crew locations and in surrounding communities by operations of Air Force aircraft and ground support equipment. The far-field, community-type, noise data in the handbook describe the noise produced during ground operations of aircraft, ground support equipment, and other ground-based equipment or facilities.

Volume 1 of this handbook discusses the objectives and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Volume 2 provides a method and data for adjusting the handbook's far-field noise data, which are for standard meteorological conditions (15 C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure), to derive comparable data for other meteorological conditions. Refer to Volumes 1 and 2 (references 1 and 2) for such information because it is not repeated in other handbook volumes.

A cumulative index lists those aerospace systems contained in the handbook, and identifies the specific volumes containing each type of environmental noise data available (i.e., inflight/flight crew and passenger noise, near-field/ground crew noise, far-field/community noise). Volume numbers are assigned sequentially as individual volumes are published. This index is periodically updated as individual volumes are published and is available upon request from AMRL/BBE, Wright-Patterson AFB, OH 45433. Organizations on the distribution list for the handbook will automatically receive a copy of each updated index.

Direct any questions concerning the technical data in this report and other handbook volumes to: AMRL/BBE, Wright-Patterson AFB, OH 45433; AUTOVON 78-53675 or 78-53664; Commercial (513) 255-3675 or (513) 255-3664.

1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 1: Organization, Content and Application*, AMRL-TR-75-50 (1) Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.
2. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise*, AMRL-TR-75-50 (2), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975.

NEAR-FIELD NOISE

MEASUREMENTS

AMRL acquired near-field noise data on the C-121G aircraft during ground runup operations of its reciprocating engines. For these tests the aircraft was located on a taxiway at Wright-Patterson AFB with no significant reflecting surfaces in the vicinity except the ground plane. Table 1 gives the surface meteorological conditions and nomenclature for ground crew locations. The ground-crew chief selected power conditions and near-field locations usually used during routine maintenance or engine runup for preflight checks.

At each near-field location a test engineer randomly moved a hand-held microphone in and around each location, probing all areas where a crew member's head would normally be located. He recorded all the noise samples on magnetic tape. During analysis of each sample, he determined the one-third octave band root-mean-square sound pressure using a 4- or 8-second integration time to derive a power-averaged level for each location. Figure 1 shows the seven near-field locations where ground crew are usually located for maintenance and/or preflight checkout operations. Estimates of noise levels at other locations are difficult in the near-field since the noise source is spatially distributed, i.e., not a point source. The noise levels at near-field locations can vary widely depending upon relative distances from each noise source (intake noise, exhaust noise, panel resonances, internal engine noise through the engine wall, etc.).

Table 1 lists the numeric/alphabetic designators used on the data pages in this report to identify the measurement locations and test conditions. For example, the designator 1/A means ground crew location 1 and test condition A.

RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the C-121G aircraft at the seven ground crew locations. This table includes the overall, 1/3 octave band and octave band levels. From these data one can calculate the variety of measures given in Table 3, which are widely used to assess the effects of noise on personnel and their performance.

All near-field data are for the meteorological conditions at the time of the tests but are valid for all typical airbase meteorology because of the short sound propagation distances involved.

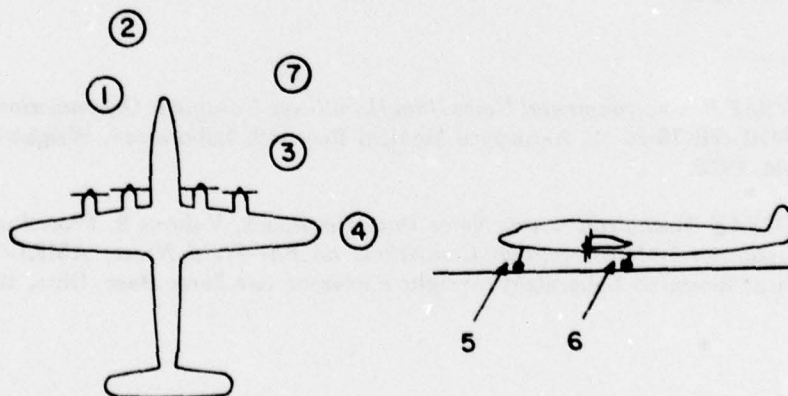


Figure 1. Near-Field Measurement Locations on Taxiway, Wright-Patterson AFB, OH

TABLE 1

**MEASUREMENT LOCATIONS AND TEST CONDITIONS
FOR NEAR-FIELD NOISE MEASUREMENTS**

**C-121G Aircraft, Ground Runups, Wright-Patterson AFB, OH
Tail #30548, 23 September 1974**

Ground Crew Location

1	Engine Start
2	Marshal
3	Fire Guard
4	Wing Walker
5	Chock Pull
6	Chock Pull
7	Safety Observer

Aircraft Engine Operation

A	All Engines Idle
---	------------------

Meteorology

Temperature	12.2 C
Bar Pressure	0.749 M Hg
Rel Humidity	36 %
Wind — Speed	2 M/Sec (4 Kts)
— Direction	050 Deg

FAR-FIELD NOISE

MEASUREMENTS

AMRL acquired near and far-field data during a 1-2-hour test period, thus keeping similar meteorological conditions. Figure 2 shows the ground runup area (taxiway), ground cover, aircraft orientation and 19 microphone measurement sites on the semicircle. The center of the 75 meter radius semicircle used in surveying the R-3350-93 engines was on the ground directly below the intersection of the aircraft's centerline and the plane passing through both inboard engines' propeller planes.

Table 4 provides cockpit readouts of engine characteristics (RPM, fuel flow, etc.) for each power setting used in the far-field tests. Also listed in this table are the surface meteorological conditions during data acquisition.

All 19 microphone measurement sites are in the acoustic far-field of the source where the sound wave-fronts spherically diverge and the noise source may be regarded as a point source.

A portable microphone/tape-recorder system was used to sequentially record the noise at each far-field location. The microphone was attached to a hand-held pole, pointed at the source (0° angle of incidence) and vertically scanned from 0.5 to 3 meters for a period of 5-10 seconds during data acquisition at each microphone location. These samples were then time-integrated to derive a root-mean-square sound pressure level. Vertical scanning and time-integrating together reduce anomalies frequently present in data acquired by a fixed height microphone.

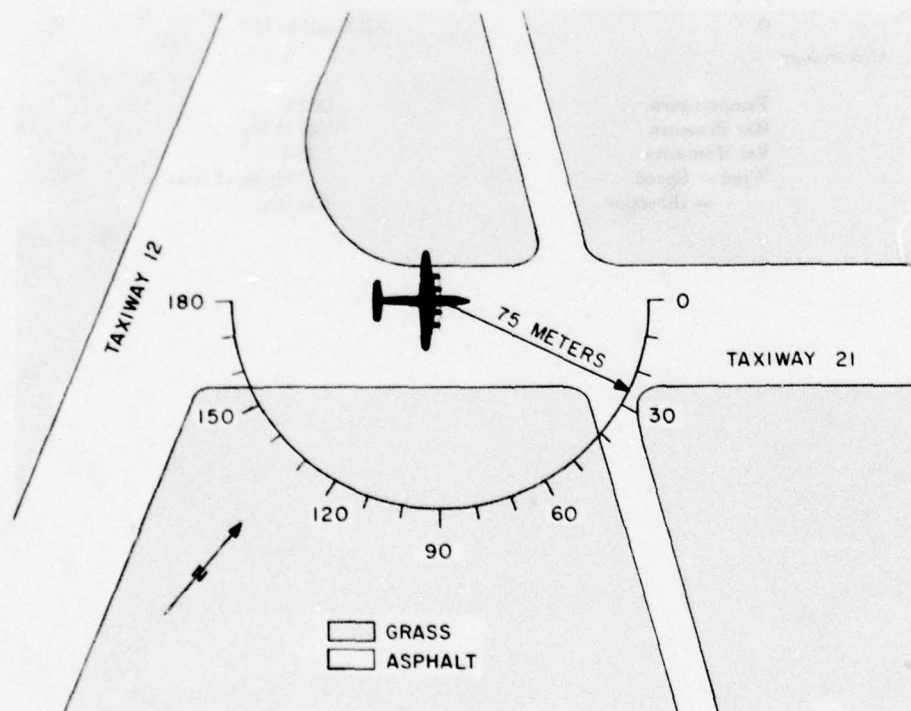


Figure 2. Far-Field Measurement Locations on Taxiway Wright-Patterson AFB, OH

RESULTS

Table 5 lists the overall and 1/3 octave band SPL measured at the far-field locations under meteorological conditions at the time of the test. Data in all other figures and tables are based on these levels. These data were normalized to 100 meters distance and standard meteorological conditions (15 C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 3 which provides a compact summary of the far-field noise characteristics of the C-121G aircraft in a standard format.

Figure 4 and Table 6 present two basic acoustic measures, the acoustic power level and the directivity index, respectively. The acoustic power level describes the power radiated by the source as a function of frequency. The directivity index is a standard acoustical engineering measure that describes the geometric way in which the source radiates this power as a function of both frequency and angle from source. These basic source measures are primarily of interest for acoustical engineers and noise generation/control specialists.

Estimates of the noise levels for intermediate power settings (e.g., 2300 RPM) and/or different number of engines operating (e.g., single engine) can be determined as explained in Volume 1 of this handbook.

Figures 5 through 11 are sets of equal noise contours describing seven different measures of noise as a function of angle and distance from the source for standard day meteorology. They are, respectively, overall sound pressure level, C-weighted sound level, A-weighted sound level, perceived noise level, speech interference level, permissible exposure times for personnel and octave band sound pressure levels.

Data excessively influenced by spurious background/electronic noise were eliminated from all figures and tables. No data are presented at the 170/180 degree locations for the engine warmup and propeller speed check, nor at the 160/170/180 locations for the magneto check and the takeoff power settings because of turbulent air flow behind the aircraft. Typically, the A-weighted levels for these angles are 5 to 10 dBA below the level measured at the preceding microphone location.

Test personnel performed noise surveys during quiet periods when the background noise was minimal, e.g., early in the morning when no other aircraft or engine test stands were operating. Data eliminated because they were near the background/electronic noise were generally not significant because the levels were so low (e.g., Table 5, idle power).

Volume 2 of the handbook describes the influence of meteorology on far-field noise environments, and provides, if required, the factors necessary to adjust the handbook's standard meteorological day data.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)										IDENTIFICATION:	
1/3 OCTAVE BAND											
2											
NOISE SOURCE/SUBJECT:											
(OPERATION:											
(
C-121G AIRCRAFT											
(
GROUND CREW											
(
NEAR FIELD NOISE LEVELS											
(
LOCATION/CONDITION											
FREQ (HZ)	1/A	2/A	3/A	4/A	5/A	6/A	7/A				
25	82	77<	87	84	89	98	83				
31.5	85	82	87	84	90	94	84				
40	90	85	92	91	95	97	88				
50	94	92	97	93	100	99	94				
63	95	92	97	96	100	98	93				
80	89	86	90	86	93	96	86				
100	87	83	87	83	89	97	83				
125	83	80	81	79	87	95	81				
160	82	79	80	81	87	90	81				
200	81	79	83	83	85	89	80				
250	78	78	83	78	83	83	78				
315	75	74	80	75	83	84	75				
400	75	71	75	76	80	86	73				
500	75	70	78	80	81	85	74				
630	73	66	75	73	80	81	72				
800	71	65	72	74	75	82	69				
1000	70	65	73	72	76	80	70				
1250	70	66	73	72	75	81	69				
1600	70	66	71	72	75	81	68				
2000	71	67	73	75	76	81	70				
2500	69	65	72	74	75	81	71				
3150	69	64	70	73	74	80	67				
4000	69	54	72	75	74	81	68				
5000	66	61	69	71	71	77	67				
6300	64	58	67	67	69	74	63				
8000	64	59<	58	70	70	75	63				
10000	62	56	66	69	68	74	61				
OVERALL	99	97	102	99	105	106	98				
< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.											

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)									
2									
NOISE SOURCE/SUBJECT: (OPERATION:)									
C-121G AIRCRAFT									
GROUND CREW									
NEAR FIELD NOISE LEVELS									
LOCATION/CONDITION									
FREQ (HZ)	1/A	2/A	3/A	4/A	5/A	6/A	7/A		
31.5	91	87	94	92	97	101	90		
63	98	96	100	98	103	103	97		
125	89	86	89	86	93	99	85		
250	83	82	85	85	88	91	83		
500	79	74	81	82	85	89	78		
1000	75	70	77	77	80	86	74		
2000	75	71	76	79	80	86	74		
4000	73	68	75	78	78	84	72		
8000	68	62	72	73	74	79	67		
OVERALL	99	97	102	99	105	105	98		

IDENTIFICATION:

OMEGA 3.2

TEST 74-075-001

RUN 01

04 MAR 77

PAGE J1

TABLE: MEASURES OF HUMAN NOISE EXPOSURE										IDENTIFICATION:
3										OMEGA 3.2
										TEST 74-075-001
										RUN 01
										04 MAR 77
										PAGE H1
NOISE SOURCE/SUBJECT: (OPERATION:)										
C-121G AIRCRAFT ()										
GROUND CREW ()										
NEAR FIELD NOISE LEVELS ()										
LOCATION/CONDITION										
	1/A	2/A	3/A	4/A	5/A	6/A	7/A			
HAZARD/PROTECTION										
C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DB) AT EAR										
A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DB) AT EAR										
MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)										
NO PROTECTION										
	OASLC	98	96	100	98	104	105	97		
	OASLA	83	73	85	86	88	93	82		
	T	571	960	404	339	240	101	679		
MINIMUM QPL EAR MUFFS										
	OASLA*	73	70	75	73	78	81	71		
	T	960	960	960	960	960	807	960		
AMERICAN OPTICAL 1700 EAR MUFFS										
	OASLA*	71	68	73	71	76	77	69		
	T	960	960	960	960	960	960	960		
V-51R EAR PLUGS										
	OASLA*	62	59	64	63	67	70	61		
	T	960	960	960	960	960	950	960		
AMERICAN OPTICAL 1700 EAR MUFFS PLUS W-51R EAR PLUGS										
	OASLA*	53	50	55	53	58	60	52		
	T	960	960	960	960	960	960	960		
H-133 GROUND COMMUNICATION UNIT										
	OASLA*	65	62	67	65	70	72	64		
	T	960	960	960	960	960	950	960		
COMMUNICATION										
PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)										
	PSIL	76	72	78	79	82	87	75		
ANNOYANCE										
PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)										
TONE CORRECTION (C IN DB)										
	PNLT	100	96	102	103	105	109	98		
	C	0	0	1	2	0	0	0		

* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.

TABLE 4

**TEST CONDITIONS
FOR FAR-FIELD NOISE MEASUREMENTS**

**C-121G Aircraft, Ground Runups, Wright-Patterson AFB, OH
Tail #30548, 23 September 1974**

Aircraft Engine Operation

Idle	All Engines 700 RPM 26.3 Inches Hg, Manifold Pressure 90 LBS/HR, Fuel Flow
Engine Warmup	All Engines 1200 RPM 24 Inches Hg, MAP 150 LBS/HR, FF
Propeller Speed Check	All Engines 1700 RPM 25.2 Inches Hg, MAP 325 LBS/HR, FF
Power Check	All Engines 2050 RPM 28.8 Inches Hg, MAP 500 LBS/HR, FF
Takeoff Power	All Engines 2900 RPM 58 Inches Hg, MAP 2000 Plus LBS/HR, FF

Meteorology

Temperature	12.2 C
Bar Pressure	0.749 M Hg
Rel Humidity	36 %
Wind — Speed	2 M/Sec (4 Kts)
— Direction	050 Deg

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																
1/3 OCTAVE BAND																
DISTANCE = 75 METERS																
NOISE SOURCE/SUBJECT:																
(OPERATION:)																
(C-121G AIRCRAFT)																
(R-3350-93A ENGINE)																
(FAR FIELD NOISE)																
(ALL ENGINES)																
ANGLE (DEGREES)																
FREQ	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
(HZ)																
25	72	72	73	72	73	74	73	74	74	76	74	76	73	72	73	70
31.5	74	74	74	72	72	73	73	76	74	77	76	78	76	74	75	70
40	80	79	80	80	80	81	81	80	81	82	81	82	80	80	80	73
50	84	84	83	82	82	83	83	83	83	83	83	83	82	81	82	78
63	82	82	83	82	82	83	85	85	86	86	86	86	84	82	83	81
80	75	75	76	75	74	74	74	75	75	80	78	77	74	73	71	73
100	75	74	74	72	70	68	69	71	72	74	74	72	71	70	71	72
125	74	72	72	71	70	71	70	58	70	73	70	71	68	69	70	69
160	74	73	73	73	71	70	71	58	70	73	71	71	70	71	72	70
200	75	74	72	72	70	71	71	58	70	72	70	72	71	72	71	71
250	70	69	69	67	65	66	63	61	62	66	62	67	64	64	66	65
315	66	64	63	62	60	59	58	56	56	63	54	65	57	58	60	63
400	66	66	65	64	61	60	59	57	57	62	56	66	59	59	60	64
500	64	64	64	62	61	58	60	59	57	64	59	64	64	60	62	65
630	60	60	59	59	59	55	57	54	55	62	58	60	63	60	66	61
800	57	58	57	57	57	55	57	54	54	63	59	61	62	60	62	61
1000	56	56	56	56	56	56	56	55	55	57	57	62	59	60	72	59
1250	56	57	56	56	56	57	57	55	56	57	59	60	58	60	61	62
1600	56	57	56	57	57	57	57	55	56	58	60	60	59	60	64	61
2000	56	56	57	58	57	57	57	55	55	58	59	60	60	59	64	61
2500	56	56	58	57	57	57	57	55	55	56	59	61	60	60	61	61
3150	53	54	54	55	54	54	52	52	52	55	56	57	60	59	59	58
4000	52	53	53	53	53	52	51	51	52	56	56	57	59	59	58	57
5000	46	48	51	48	48	48	47	48	47	49	50	52	54	53	53	51
6300	42	44	43	43	43	43	42	44	43	45	46	48	50	49	48	49
8000	38	41	40	45	50	49	49	52	47	47	49	53	53	53	54	54
10000	38	41	40	40	43	42	41	44	43	40	41	42	45	44	45	42
OVERALL	83	88	88	87	87	88	89	89	89	90	90	88	87	88	87	86

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																		
1/3 OCTAVE BAND																		
DISTANCE = 75 METERS																		
NOISE SOURCE/SUBJECT:																		
C-121G AIRCRAFT																		
R-3350-93A ENGINE																		
FAR FIELD NOISE																		
ALL ENGINES																		
TEMP = 12 C																		
BAR PRESS = .749 M Hg																		
REL HUMID = 36 %																		
METEOROLOGY:																		
RUN 02																		
12 AUG 76																		
PAGE 2																		
IDENTIFICATION:																		
OMEGA 1.4																		
TEST 75-002-019																		
FREQ (HZ)																		
0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
78	79	78	79	78	78	73	77	74	79	79	78	81	79	77	80	78		
70<	70<	71<	70<	71<	69<	68<	70<	68<	71<	73<	72<	72<	73<	68<	70<	72<		
75	75	77	78	81	82	83	81	79	81	84	81	81	81	76	74<	75		
83	82	84	83	84	82	83	81	81	83	86	85	83	84	84	79	78		
86	88	91	93	93	92	92	30	91	94	95	94	94	92	91	89	77		
86	85	88	89	90	90	90	30	90	93	92	92	91	89	87	85	79		
85	85	85	85	83	83	84	95	86	88	86	85	83	95	83	78	77		
84	83	83	81	83	82	81	93	81	83	79	79	80	80	78	74	71		
84	85	85	84	82	81	78	76	75	78	76	77	80	78	78	73	68		
84	83	83	79	76	74	74	72	68	68	70	71	72	73	73	69	66		
83	81	80	78	75	71	70	59	67	66	66	66	67	71	70	69	66		
81	80	80	78	74	71	70	59	66	67	67	67	68	69	70	69	65		
78	77	76	76	72	69	68	57	65	68	68	69	68	69	69	69	64		
74	74	73	73	70	67	66	55	62	64	66	67	67	68	67	66	61		
72	71	72	70	68	67	66	54	62	64	66	65	68	69	69	67	60		
68	69	69	68	67	65	64	53	61	63	65	64	66	69	67	66	58		
67	67	67	67	66	64	64	53	63	64	65	65	65	70	68	66	57		
67	67	68	67	66	65	63	54	63	64	65	65	66	70	69	66	56		
66	67	67	67	65	65	64	54	63	64	65	66	67	70	67	65	54		
65	66	67	67	66	65	64	54	62	63	63	65	66	69	66	63	52		
65	69	71	72	70	67	65	56	64	66	65	66	67	68	65	62	53		
62	63	64	64	63	63	62	52	61	63	63	63	64	66	63	61	51		
58	59	59	59	60	58	58	59	58	58	59	59	59	61	58	56	46		
54	55	56	56	57	55	55	56	55	56	55	55	56	57	55	52	43		
52<	53<	54<	54<	57	56	55	56	54<	53<	54<	53<	56	56	56	54<	47<		
52	52	53	53	54	53	53	54	50	48	49	48	49	50	49	45<	37<		
OVERALL	94	94	96	96	96	96	96	95	97	98	97	96	95	94	92	86		
< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.																		

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

TABLE 1		MEASURED SOUND PRESSURE LEVEL (DB)										IDENTIFICATION:								
5		1/3 OCTAVE BAND DISTANCE = 75 METERS										OMEGA 1.4 TEST 75-002-019								
NOISE SOURCE/SUBJECT:		(OPERATION:										RUN 03								
C-121G AIRCRAFT		(PROP SPEED CHECK										TEMP = 12 C								
R-3350-93A ENGINE		(1700 RPM										BAR PRESS = 74.9 M HG								
FAR FIELD NOISE		(ALL ENGINES										REL HUMID = 36 %								
												PAGE 2								
FREQ (HZ)		ANGLE (DEGREES)																		
		0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	74	73	75	75	75	78	79	77	75	77	77	77	77	76	74	76	74	78		
31.5	81	82	83	80	82	83	81	76	80	83	88	91	86	85	82	82	80			
40	89	90	91	89	91	91	89	83	87	89	94	97	93	92	89	89	85			
50	83	87	84	85	87	88	87	81	91	83	86	85	81	86	86	81	79			
63	88	85	84	85	84	86	87	80	85	86	87	88	85	84	84	81	77			
80	92	92	90	89	89	87	88	87	88	86	86	86	84	84	86	83	80			
100	92	95	96	100	98	96	98	100	99	97	96	93	97	95	97	94	88			
125	94	94	90	90	87	84	86	88	87	87	85	83	81	85	80	74				
160	93	93	91	92	90	89	84	95	86	83	82	80	84	84	83	78	73			
200	93	93	92	92	86	85	83	83	82	80	81	78	82	81	83	76	73			
250	93	92	92	90	86	85	83	81	81	77	78	79	80	80	79	75	72			
315	93	91	91	89	85	84	79	79	77	75	74	76	78	78	75	72				
400	91	90	89	90	85	81	79	76	75	72	72	73	74	76	76	74	71			
500	89	88	88	88	82	79	78	77	72	73	71	74	74	75	75	74	70			
630	85	85	84	85	79	78	75	74	71	71	70	74	73	76	76	74	70			
800	82	83	82	83	79	77	74	73	71	70	72	72	72	74	76	73	69			
1000	79	80	79	80	76	75	72	73	71	69	70	70	71	73	74	72	68			
1250	78	78	78	78	76	74	72	72	71	70	70	70	70	72	74	70	66			
1600	78	77	77	78	76	74	73	74	72	70	72	71	71	72	72	68	64			
2000	76	76	76	77	75	74	74	74	72	70	71	71	72	70	69	65	60			
2500	75	75	76	75	75	74	75	74	74	69	71	70	71	68	67	63	57			
3150	73	73	75	75	73	73	74	73	72	69	70	70	70	67	66	61	55			
4000	72	73	73	74	74	73	73	73	72	68	68	68	68	69	67	64	59	53		
5000	69	69	70	71	71	70	71	70	68	65	65	65	65	65	63	61	54	49		
6300	66	66	67	68	69	68	69	67	66	63	62	61	61	61	60	59	52	46		
8000	65	66	66	67	67	67	67	67	64	61	59	58	58	57	56	53	44			
10000	64	65	64	66	67	66	66	66	64	57	55	54	53	52	51	44	38			
OVERALL	102	103	102	103	101	100	100	101	101	99	99	100	99	98	99	96	92			
< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE																				

TABLE: MEASURED SOUND PRESSURE LEVEL (DB)																		
1/3 OCTAVE BAND																		
DISTANCE = 75 METERS																		
5																		
NOISE SOURCE/SUBJECT:																		
(OPERATION:)																		
(MAXIMUM POWER)																		
(2900 RPM)																		
(ALL ENGINES)																		
METEOROLOGY: TEMP = 12 C																		
BAR PRESS = .749 M HG																		
REL HUMID = 36 %																		
IDENTIFICATION: OMEGA 1.4																		
TEST 75-002-019																		
RUN 05																		
12 AUG 76																		
PAGE 2																		
FREQ (HZ)																		
0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
25	96	94	92	94	92	95	96	98	97	95	97	96	97	93	93			
31.5	87	89	87	88	88	88	89	91	92	92	92	91	91	90	90	88		
40	91	91	92	93	94	94	94	95	95	96	95	96	97	95	94	90		
50	94	97	98	99	101	101	100	98	105	106	103	107	108	105	102	95		
63	106	106	106	108	109	111	107	117	120	117	122	123	120	116	107			
80	96	96	98	98	96	98	99	101	102	102	100	102	103	102	101	95		
100	101	104	103	103	101	99	102	108	108	107	105	104	106	108	106	100		
125	108	111	110	103	107	109	112	114	115	117	120	114	115	111	103	98		
160	107	107	108	106	107	103	103	105	108	109	108	107	108	106	105	96		
200	108	108	106	107	105	106	105	109	113	114	114	108	108	106	102	97		
250	110	107	108	106	103	106	102	105	110	109	109	105	103	102	98	92		
315	106	107	107	103	101	102	98	102	107	109	105	105	98	99	96	91		
400	106	105	106	104	103	101	99	105	110	112	109	106	98	96	93	89		
500	104	104	105	102	99	100	98	105	107	109	105	102	97	97	92	88		
630	102	102	103	102	99	98	99	104	107	106	103	102	97	98	93	88		
800	101	101	101	99	97	98	99	105	106	104	101	101	98	96	93	88		
1000	99	99	100	98	96	98	98	103	105	104	100	98	97	97	92	87		
1250	98	97	98	96	96	97	96	102	105	102	99	97	94	95	92	87		
1600	96	96	97	95	96	97	96	101	105	103	99	96	92	93	90	86		
2000	96	95	96	95	95	97	96	99	102	101	96	94	91	91	88	84		
2500	95	95	96	95	94	96	96	97	100	100	94	92	89	90	87	82		
3150	93	93	93	92	93	94	93	97	99	99	94	92	89	89	87	81		
4000	93	93	93	92	93	94	93	95	99	99	92	89	88	89	86	81		
5000	89	89	90	89	90	88	91	95	94	88	86	84	85	85	82	77		
6300	86	86	86	85	86	87	86	89	93	92	86	83	81	83	80	75		
8000	84	84	85	84	85	86	84	86	92	90	83	80	79	80	77	72		
10000	83	82	83	81	83	84	83	82	90	87	79	75	74	75	73	68		
OVERALL	117	117	117	115	115	116	117	119	122	124	123	123	124	121	117	110		
LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.																		

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

OPERATION:

C-121G AIRCRAFT

R-3350-93A ENGINE

FAR FIELD NOISE

METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

IDENTIFICATION:

OMEGA 1.4

TEST 75-002-019

RUN 01

12 AUG 76

PAGE 6

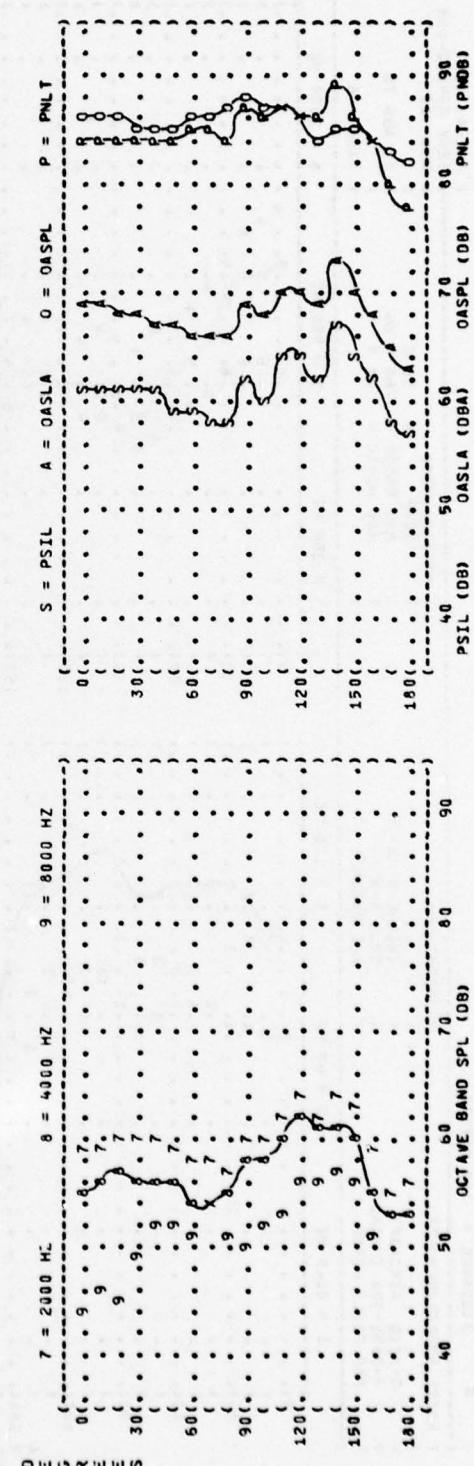
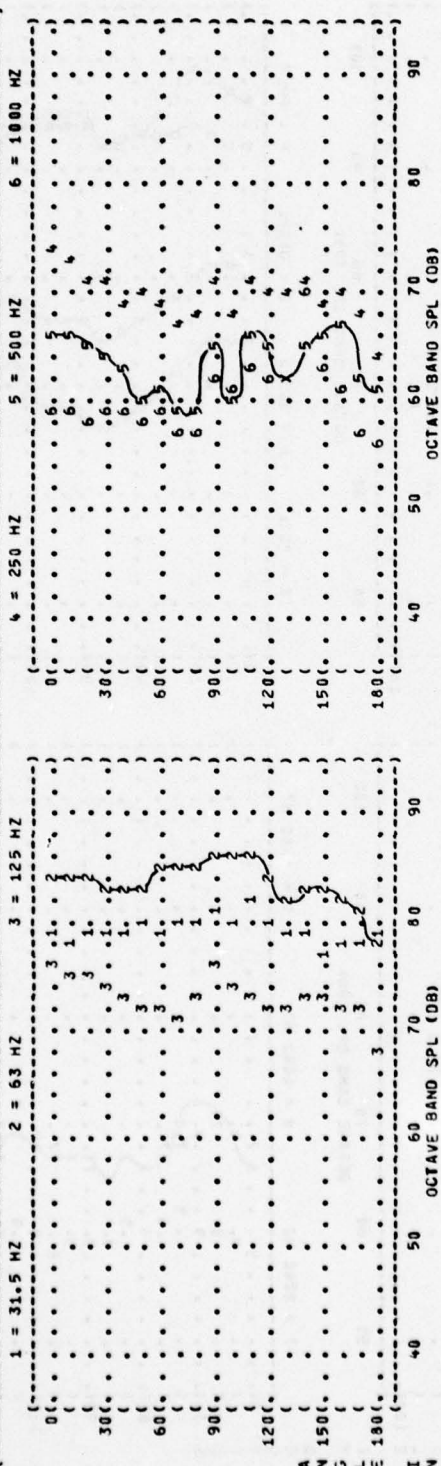


FIGURE: NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT: C-121G AIRCRAFT
R-3350-93A ENGINE
FAR FIELD NOISE

OPERATIONS: ENGINE WARM-UP
1200 RPM
ALL ENGINES

METEOROLOGY: TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

IDENTIFICATION: OMEGA 1.4
TEST 75-002-019
RUN 02
12 AUG 76
PAGE 6

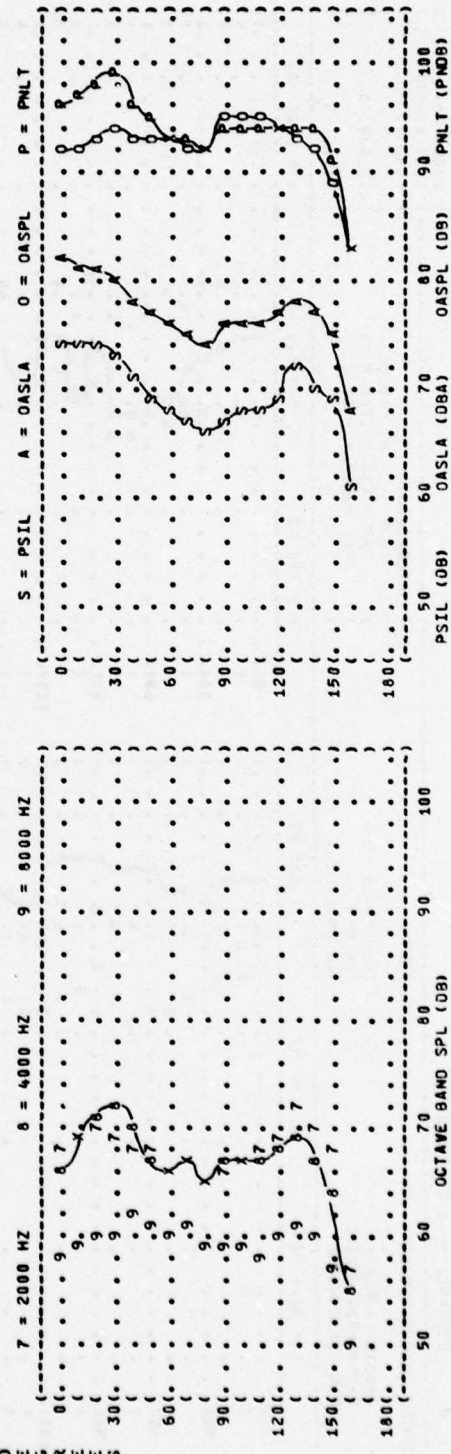
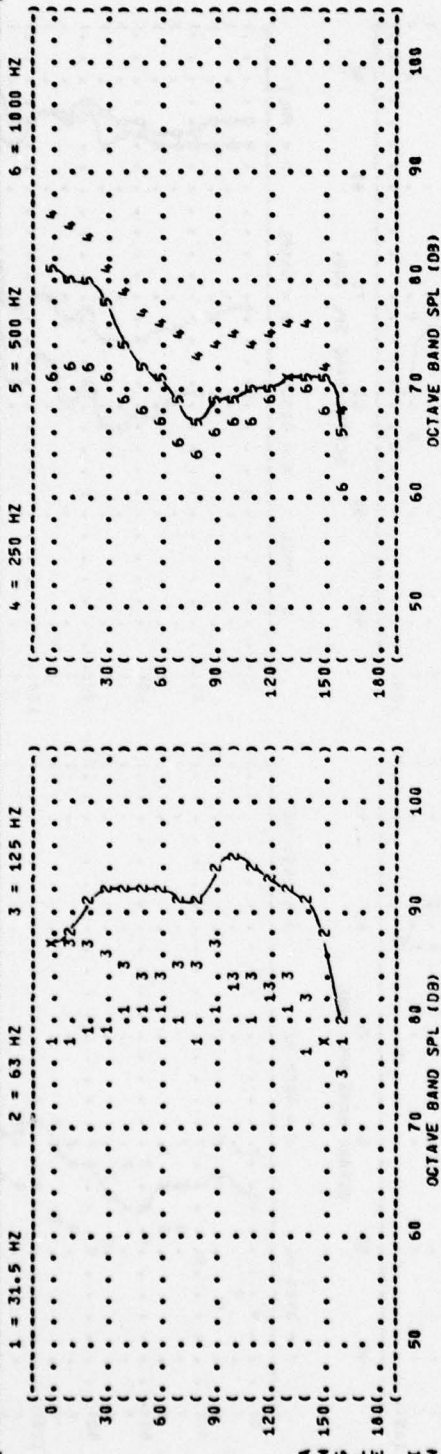


FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

OPERATIONS:

G-121G AIRCRAFT

R-3350-93A ENGINE

FAR FIELD NOISE

METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

IDENTIFICATION:

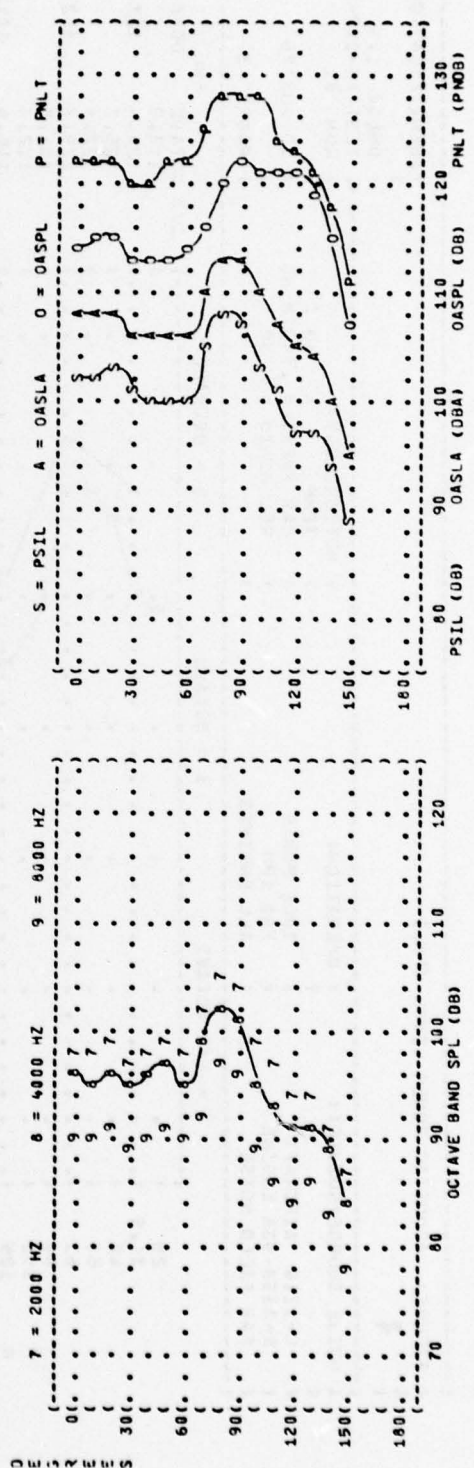
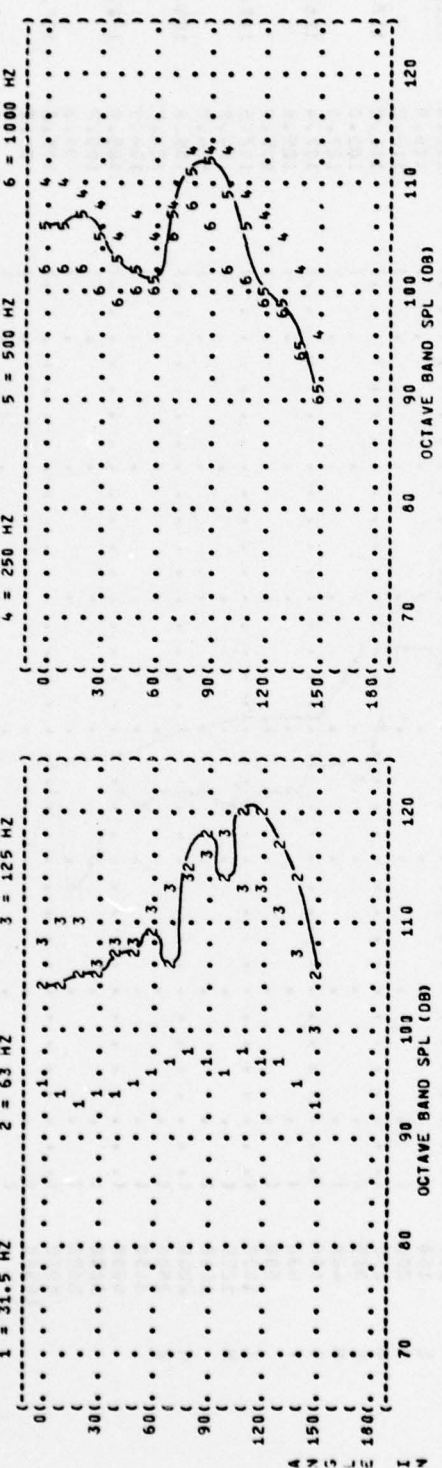
OMEGA 1.4

TEST 75-002-019

RUN 05

12 AUG 76

PAGE 6



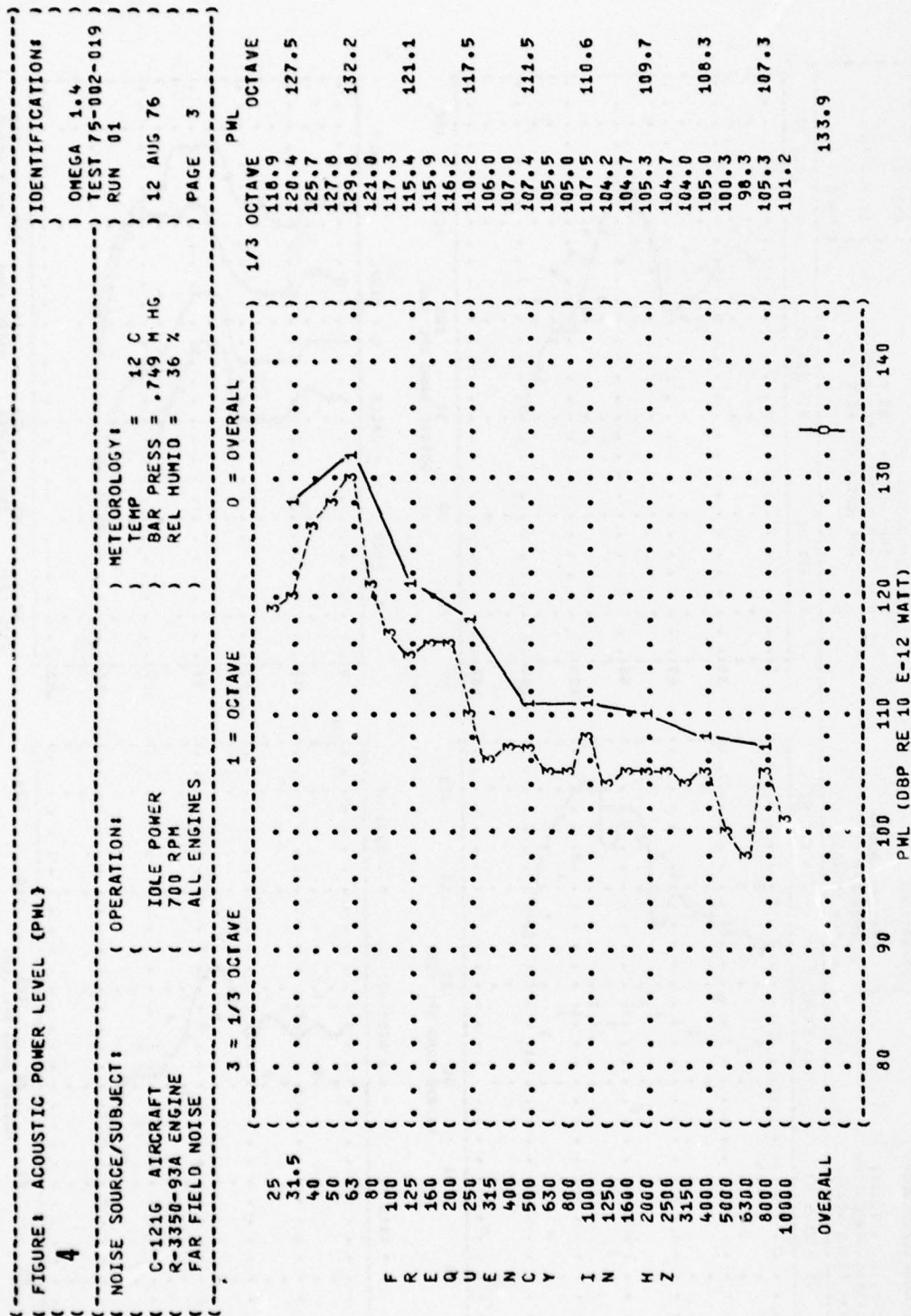


FIGURE: ACOUSTIC POWER LEVEL (PWL)

4

IDENTIFICATION:

OMEGA 1.4

TEST 75-002-019

RUN 02

12 AUG 76

PAGE 3

NOISE SOURCE/SUBJECT:

OPERATION:

ENGINE WARM-UP

1200 RPM

ALL ENGINES

METEOROLOGY:

TEMP = 12 C

BAR PRESS = .749 M HG

REL HUMID = 36 %

3 = 1/3 OCTAVE

1 = OCTAVE

0 = OVERALL

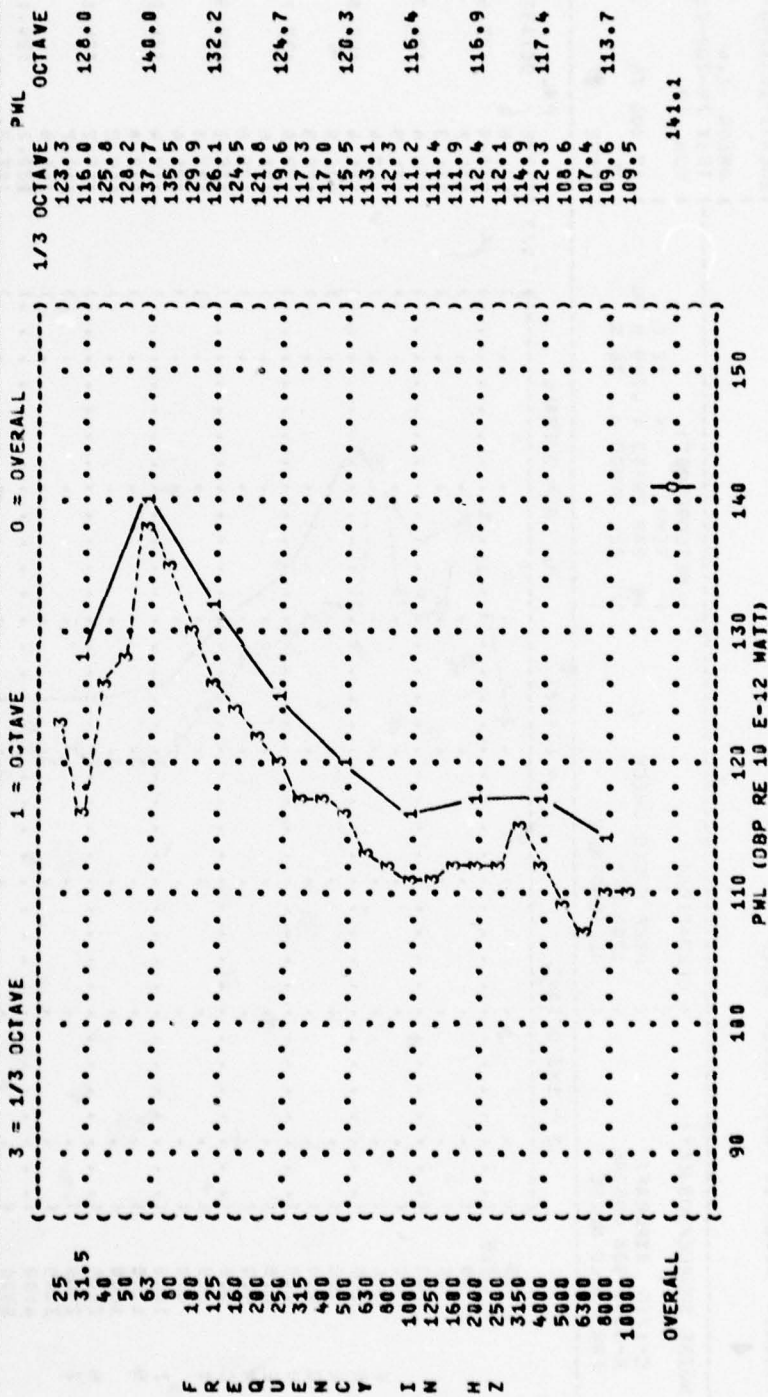


FIGURE: ACOUSTIC POWER LEVEL (PWL)

4

NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:) IDENTIFICATION:)

C-121G AIRCRAFT ((PROP SPEED CHECK) TEMP = 12 C) OMEGA 1.4

R-3350-93A ENGINE ((1700 RPM) BAR PRESS = .749 M HG) TEST 75-002-019

FAR FIELD NOISE ((ALL ENGINES) REL HUMID = 36 %) RUN 03

12 AUG 76

PAGE 3

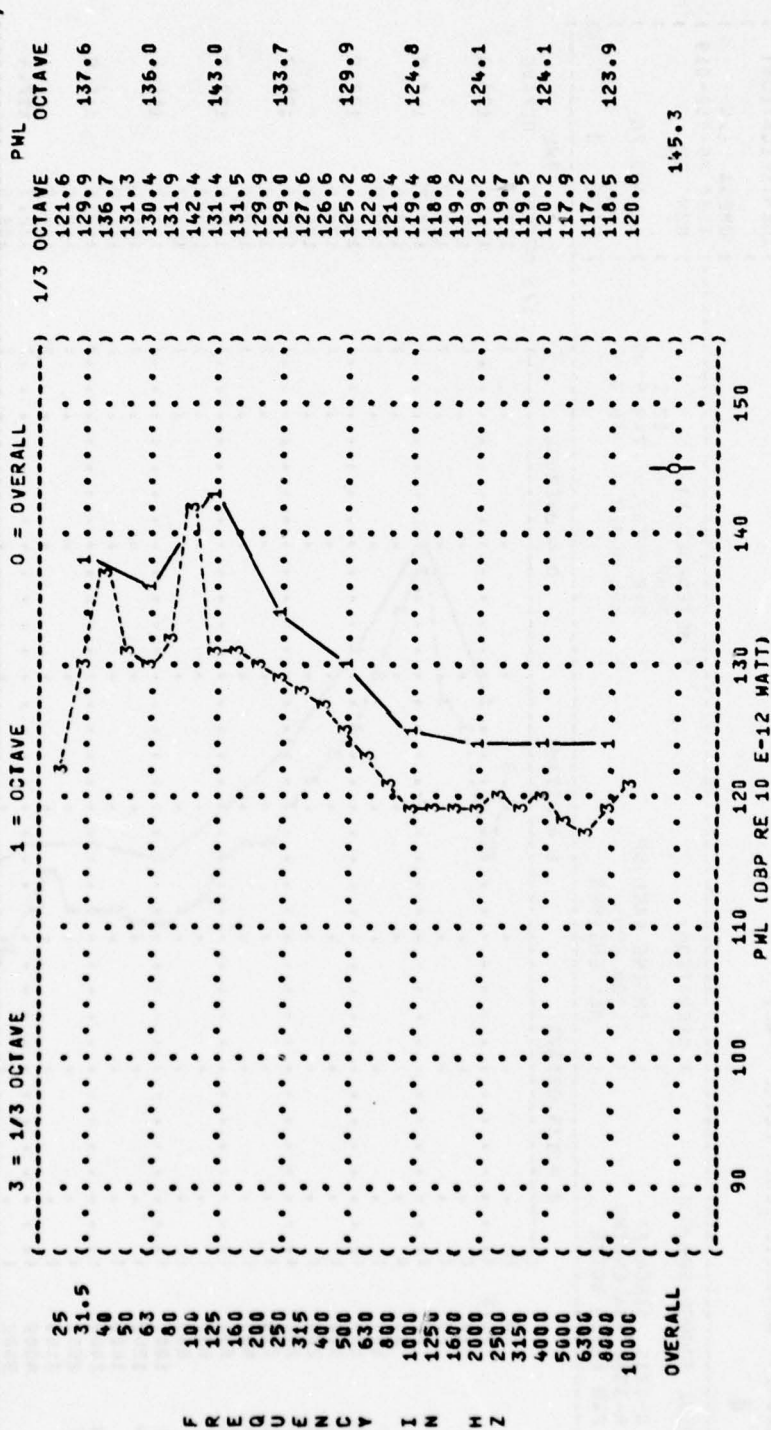


FIGURE: ACOUSTIC POWER LEVEL (PWL)

4

IDENTIFICATION:

OMEGA 1.4

TEST 75-002-019

RUN 05

12 AUG 76

PAGE 3

NOISE SOURCE/SUBJECT:

OPERATION:

C-121G AIRCRAFT

R-3350-93A ENGINE

FAR FIELD NOISE

MAXIMUM POWER

2900 RPM

ALL ENGINES

METEOROLOGY:

TEMP = 12 C

BAR PRESS = .749 M HG

REL HUMID = 36 %

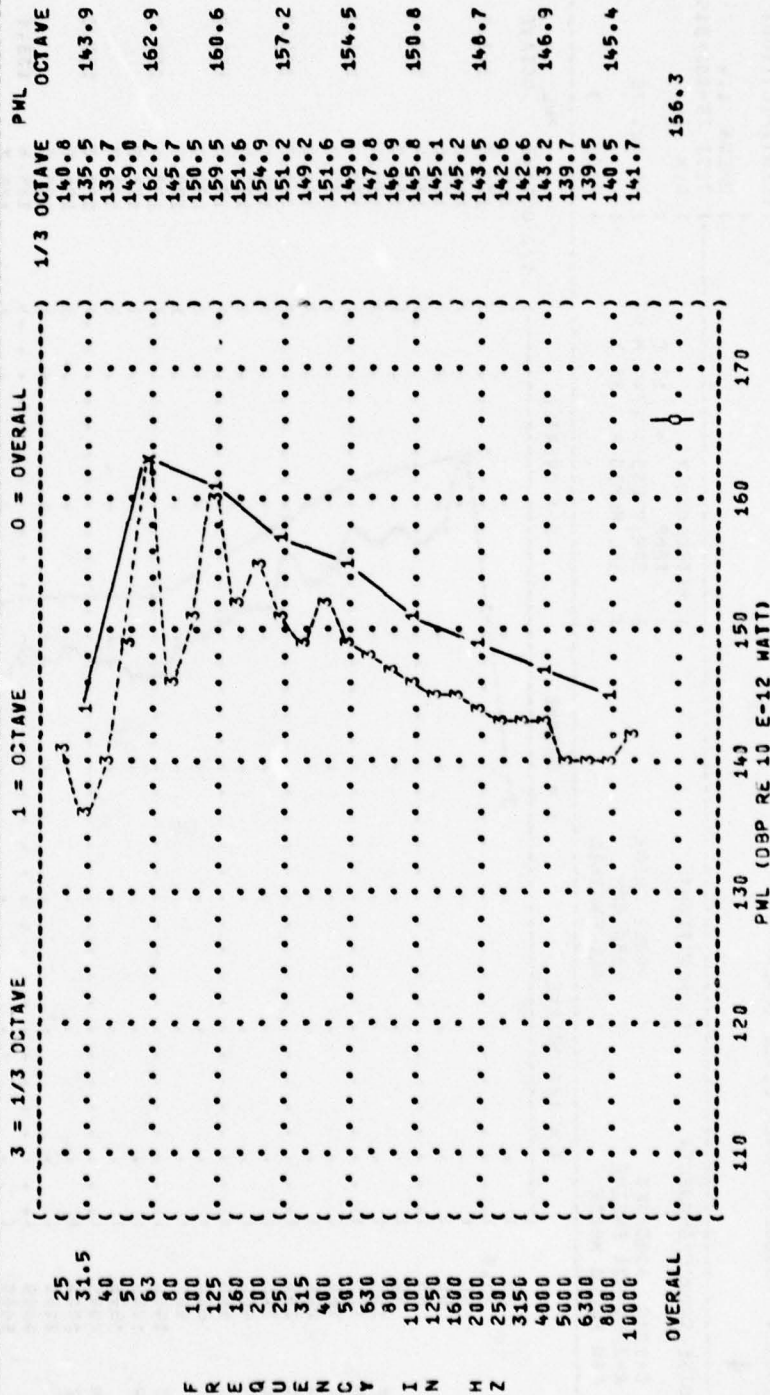


TABLE: DIRECTIVITY INDEX (DB)										IDENTIFICATION:									
6										OMEGA 1.4									
NOISE SOURCE/SUBJECT:										TEST 75-002-019									
(OPERATION:										RUN 01									
(C-121G AIRCRAFT										TEMP = 12 C									
(R-3350-93A ENGINE										BAR PRESS = .749 M HG									
(FAR FIELD NOISE										REL HUMID = 36 %									
(ALL ENGINES										PAGE 4									
FREQ										ANGLE (DEGREES)									
(HZ)																			
1/3 OCTAVE																			
25	-2	-2	-1	-1	-2	-1	-0	-1	3	0	2	-1	-1	-1	-4	-3	2		
31.5	-1	-1	-1	-1	-2	-1	-2	-1	2	0	3	1	-1	-1	-2	-3	-1		
40	-1	-1	-1	-1	-2	-1	-2	-1	1	0	2	-0	-1	-1	-3	-1	-2		
50	1	1	1	1	-2	1	0	0	2	0	0	-0	-0	-1	-0	-1	-2		
63	-2	-3	-2	-2	-2	1	-1	1	2	2	2	-0	-3	-1	-2	-4	-5		
80	-1	-1	0	-1	-2	-1	-3	0	4	2	0	-1	-2	-2	-1	-5	-7		
100	3	2	2	2	-2	-3	-4	-1	2	2	0	-1	-2	-1	-2	-4	-6		
125	4	2	2	2	1	0	0	-1	2	-0	-0	-1	-1	0	-1	-2	-3		
160	3	3	3	3	2	1	-1	-3	1	-0	-0	-1	-1	1	-1	-2	-7		
200	4	3	3	3	1	1	-1	-3	1	1	2	-1	-1	1	0	0	-1		
250	5	4	4	4	2	2	0	-4	0	-3	4	-2	-3	-1	2	3	1		
315	6	5	5	5	3	3	-0	-5	0	-5	4	-2	-3	-2	4	4	1		
400	5	4	4	4	3	3	-1	-4	2	-3	2	2	-2	-2	3	4	2		
500	2	2	2	2	0	0	-1	-5	2	-2	0	2	-2	0	1	2	-3		
630	-0	-2	-2	-2	-1	-1	-4	-6	4	-1	0	-3	-2	0	0	0	-4		
800	-2	-6	-6	-6	-2	-2	-6	-7	-5	-5	2	-3	-2	2	3	1	-5		
1000	-6	-6	-6	-6	-6	-6	-6	-7	-6	-7	-1	-3	-3	2	3	5	-8		
1250	-2	-2	-2	-2	-2	-2	-2	-3	-3	-3	1	-0	-2	1	4	2	-4		
1600	-2	-2	-2	-2	-2	-2	-2	-3	-4	-4	1	1	1	2	2	2	-6		
2000	-2	-2	-2	-2	-2	-2	-2	-3	-4	-4	1	1	1	2	2	2	-5		
2500	-2	-2	-2	-2	-2	-2	-2	-3	-4	-4	1	1	1	2	2	2	-6		
3150	-3	-3	-3	-3	-3	-3	-3	-4	-4	-4	0	0	0	3	3	3	-4		
4000	-4	-4	-4	-4	-4	-4	-4	-5	-5	-5	0	0	0	3	3	3	-5		
5000	-4	-4	-4	-4	-4	-4	-4	-5	-5	-5	-1	-1	-1	3	3	3	-6		
6300	-4	-4	-4	-4	-4	-4	-4	-5	-5	-5	-1	-1	-1	3	3	3	-5		
8000	-4	-4	-4	-4	-4	-4	-4	-5	-5	-5	-1	-1	-1	3	3	3	-5		
10000	-4	-4	-4	-4	-4	-4	-4	-5	-5	-5	-1	-1	-1	3	3	3	-5		
OCTAVE																			
31.5	-1	-1	-1	-1	-1	-1	0	-0	2	0	2	-0	-1	-1	-3	-2	-1		
63	-1	-1	-1	-1	-1	-1	-1	-1	2	1	1	-1	-1	-1	-1	-2	-3		
125	3	3	3	3	3	3	-1	-2	2	1	0	0	0	1	0	0	-5		
250	4	4	4	4	4	4	-1	-3	3	1	-2	1	-1	-1	-1	-1	-5		
500	3	3	3	3	3	3	-1	-3	3	0	-3	1	-2	-2	-2	-2	-5		
1000	-4	-4	-4	-4	-4	-4	-1	-4	-1	-0	-2	1	-0	-0	-1	-1	-6		
2000	-2	-2	-2	-2	-2	-2	-1	-3	-3	-1	1	4	4	3	3	2	-5		
4000	-4	-4	-4	-4	-4	-4	-3	-4	-4	-4	0	4	4	3	3	1	-6		
6300	-4	-4	-4	-4	-4	-4	-3	-4	-4	-4	0	4	4	3	3	1	-5		
8000	-4	-4	-4	-4	-4	-4	-3	-4	-4	-4	-1	4	4	3	3	1	-5		
10000	-4	-4	-4	-4	-4	-4	-3	-4	-4	-4	-1	4	4	3	3	1	-5		
OVERALL																			
-0										-2									

TABLE: DIRECTIVITY INDEX (DB)																
IDENTIFICATION:																
6																
NOISE SOURCE/SUBJECT:																
C-121G AIRCRAFT																
R-3350-93A ENGINE																
FAR FIELD NOISE																
OPERATIONS:																
ENGINE WARM-UP																
1200 RPM																
ALL ENGINES																
METEOROLOGY:																
TEMP = 12 C																
BAR PRESS = .749 M HG																
REL HUMID = 36 %																
PAGE 4																
TEST 75-002-019																
RUN 02																
OMEGA 1.4																
12 AUG 76																
FREQ (HZ)																
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180																
1/3 OCTAVE																
25																
31.5																
40																
50																
63																
80																
100																
125																
160																
200																
250																
315																
400																
500																
630																
800																
1000																
1250																
1600																
2000																
2500																
3150																
4000																
5000																
6300																
8000																
10000																
OCTAVE																
31.5																
63																
125																
250																
500																
1000																
2000																
4000																
8000																
OVERALL																

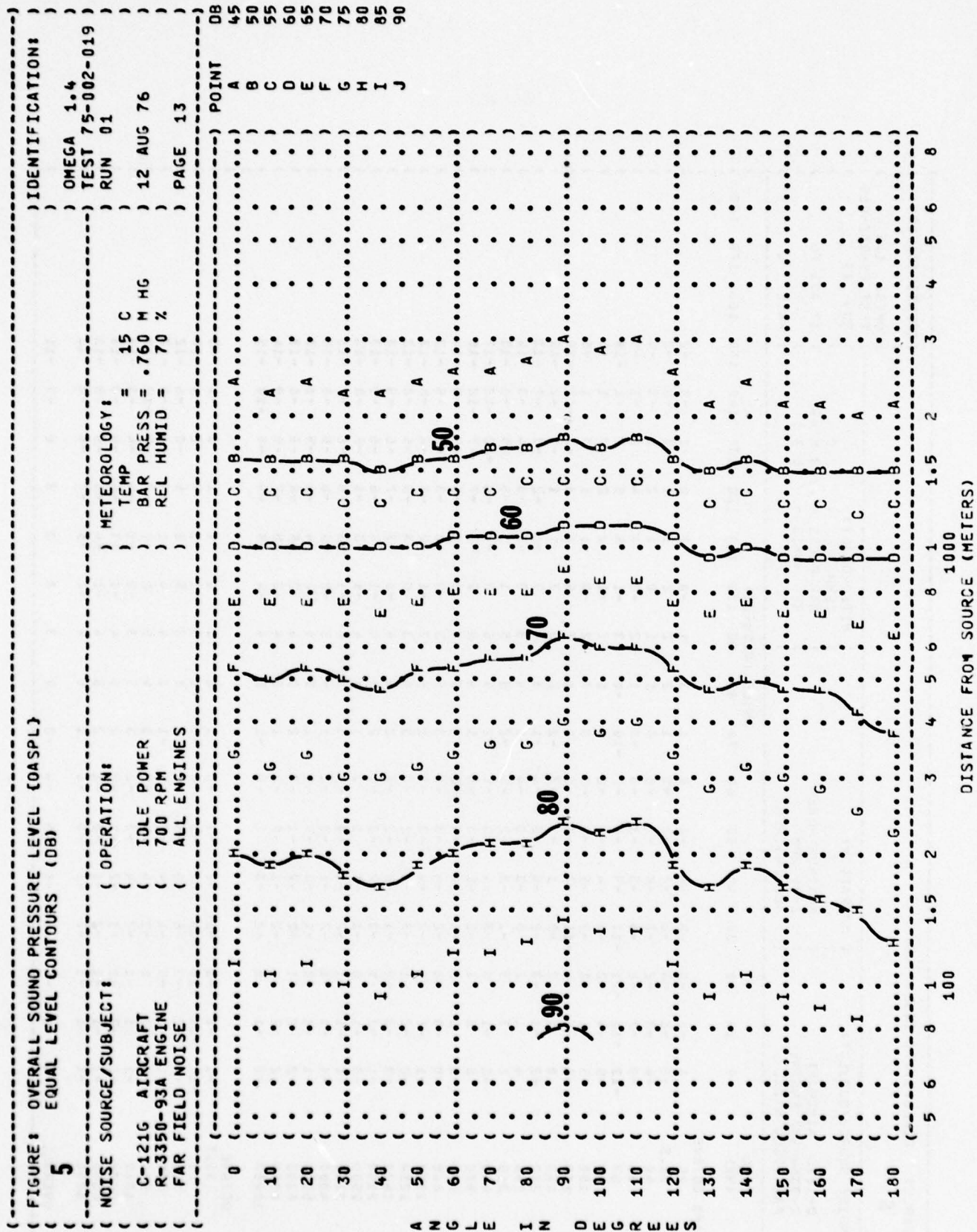
TABLE: DIRECTIVITY INDEX (DB)																				IDENTIFICATIONS:	
6																				OMEGA 1.4	
NOISE SOURCE/SUBJECT:																				TEST 75-002-019	
C-121G AIRCRAFT																				RUN 03	
R-3350-93A ENGINE																				12 AUG 76	
FAR FIELD NOISE																				PAGE 4	
OPERATION:																				METEOROLOGY:	
PROP SPEED CHECK																				TEMP = 12 C	
1700 RPM																				BAR PRESS = .749 M HG	
ALL ENGINES																				REL HUMID = 36 %	
FREQ (HZ)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180		
1/3 OCTAVE																					
25	-3	-4	-2	-1	-2	2	3	0	-1	1	1	1	-1	-2	-0	-2	2				
31.5	-4	-3	-2	-4	-3	-2	-3	-8	-4	-2	3	6	2	1	-3	-3	-4				
40	-2	-1	-0	-3	-1	-1	-2	-8	-4	-2	2	0	1	-5	0	-5	-7				
50	-3	1	-2	-1	1	2	1	-5	5	-3	-0	-1	-5	0	0	-5	-7				
63	2	0	-1	-0	-1	0	2	-6	0	1	2	2	-0	-1	-1	-4	-9				
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100	-5	-2	-1	3	1	-1	1	3	2	0	-1	-4	-0	-2	0	-3	-9				
125	8	7	4	4	1	-2	0	1	1	0	-1	-3	-5	-2	-6	-7	-13				
160	6	7	5	6	4	2	-2	-2	0	-4	-4	-6	-3	-2	-4	-8	-14				
200	8	9	8	7	1	0	-2	-2	-3	-4	-3	-5	-2	-3	-2	-8	-12				
250	9	8	8	6	3	2	-1	-3	-3	-7	-6	-5	-4	-3	-4	-9	-11				
315	11	9	9	7	3	1	-3	-3	-5	-7	-9	-8	-6	-4	-4	-7	-10				
400	9	9	8	8	4	-0	-2	-5	-6	-9	-9	-8	-7	-5	-5	-7	-10				
500	9	8	8	9	3	-1	-2	-3	-8	-7	-8	-6	-5	-4	-4	-6	-10				
630	8	8	7	8	2	1	-2	-4	-6	-6	-7	-3	-5	-2	-1	-4	-8				
800	6	7	6	7	3	2	-2	-3	-5	-5	-4	-4	-4	-2	0	-3	-7				
1000	5	6	5	6	3	1	-2	-1	-3	-4	-3	-4	-3	-1	0	-2	-6				
1250	5	5	5	5	3	1	-1	-1	-2	-3	-3	-3	-3	-1	1	-3	-7				
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3150	2	2	3	3	2	2	3	2	0	-2	-1	-2	-2	-4	-5	-10	-16				
4000	1	2	2	3	3	2	3	2	1	-3	-1	-3	-3	-4	-7	-12	-18				
5000	1	1	2	3	3	2	3	2	0	-3	-3	-3	-3	-5	-7	-14	-19				
6300	1	1	2	3	3	2	4	2	1	-2	-3	-4	-3	-6	-6	-14	-19				
8000	2	2	2	4	4	3	4	2	1	-3	-5	-6	-6	-8	-8	-11	-20				
10000	2	3	2	4	4	3	3	3	1	-5	-7	-8	-10	-10	-12	-18	-24				
OCTAVE																					
31.5	-2	-2	-1	-3	-1	-1	-2	-8	-4	-2	2	6	1	1	-2	-3	-6				
63	3	3	1	1	1	1	1	-2	3	-1	0	-0	-2	-1	-0	-4	-7				
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250	9	9	8	7	2	1	-2	-2	-3	-6	-5	-6	-4	-4	-3	-8	-11				
500	9	9	9	8	3	-0	-2	-4	-7	-8	-8	-6	-6	-4	-4	-6	-9				
1000	6	7	6	6	3	1	-2	-2	-4	-5	-4	-4	-3	-1	0	-2	-6				
2000	4	4	4	3	3	2	1	1	-0	-3	-2	-2	-2	-3	-3	-7	-11				
4000	2	2	3	3	3	2	3	2	0	-2	-2	-2	-2	-4	-6	-11	-17				
8000	1	2	2	3	3	3	4	3	1	-3	-4	-5	-5	-7	-7	-13	-20				
OVERALL																					
3	3	2	3	3	1	-0	0	1	1	-1	-0	0	-1	-1	-1	-4	-8				

TABLE: DIRECTIVITY INDEX (DB)

6

TABLE: DIRECTIVITY INDEX (DB)																			
6																			
IDENTIFICATION:																			
										OMEGA 1.4									
										TEST 75-002-019									
										RUN 04									
										12 AUG 76									
										PAGE 4									
NOISE SOURCE/SUBJECT:										METEOROLOGY:									
(C-121G AIRCRAFT										TEMP = 12 C									
(R-3350-93A ENGINE										BAR PRESS = .749 M HG									
(FAR FIELD NOISE										REL HUMID = 36 %									
(OPERATION:																			
(POWER CHECK																			
(2050 RPM																			
(ALL ENGINES																			
ANGLE (DEGREES)																			
FREQ	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
(HZ)																			
1/3 OCTAVE																			
25	2	0	1	-0	0	0	1	1	3	-0	-0	-0	-0	-2	-3	-2			
31.5	-10	-10	-6	-5	-4	0	2	1	2	2	0	2	1	-3	-5	-6			
40	-6	-5	-2	-3	-3	-3	-6	-6	-1	0	3	5	4	0	-2	-4			
50	-5	-4	-2	-2	-2	-2	-4	-7	-2	-0	2	5	4	1	-1	-5			
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125	6	5	5	4	1	2	1	0	-1	-3	-2	-0	-3	-3	0	-1			
160	7	7	6	4	1	1	0	-2	-2	-3	-2	-0	-1	-3	-2	-2			
200	9	9	8	6	1	-1	-1	-4	-3	-6	-5	-6	-4	-4	-2	-3			
250	10	8	7	5	1	-0	0	-3	-0	-5	-4	-2	-3	-1	-2	-3			
315	11	10	9	5	1	0	-1	-6	-5	-7	-6	-5	-4	-3	-4	-1			
400	10	8	9	8	-0	0	-2	-7	-4	-8	-8	-5	-6	-4	-5	0			
500	10	8	8	8	-1	-1	-1	-7	-3	-7	-6	-4	-5	-3	-3	1			
630	9	7	7	8	0	1	-1	-7	-1	-5	-5	-3	-4	-1	-1	1			
800	8	6	6	6	2	-0	-0	-7	1	-4	-3	-3	-4	-0	-1	2			
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1250	4	4	3	4	2	1	2	-4	3	-4	-2	-3	-4	-1	-2	3			
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5000	1	2	2	3	4	3	4	0	3	-3	-4	-4	-6	-6	-8	-7			
6300	1	2	2	3	4	2	4	-1	2	-2	-3	-4	-6	-6	-8	-7			
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10000	1	3	3	4	4	4	4	-1	3	-7	-9	-9	-10	-11	-13	-12			
OCTAVE																			
31.5	-6	-5	-2	-3	-3	-2	-4	-5	-1	0	3	5	3	-0	-2	-4			
63	2	0	0	0	-1	0	-0	-1	-1	1	2	2	2	-1	-3	-5			
125	7	5	5	3	0	1	0	-1	-2	-2	-0	-0	-0	-3	-1	-1			
250	10	9	8	6	1	-0	-0	-4	-2	-6	-4	-4	-3	-2	-2	-2			
500	10	8	8	8	-0	0	-1	-7	-3	-7	-6	-4	-6	-3	-4	0			
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2000	3	3	3	3	2	3	4	-2	4	-4	-3	-4	-5	-3	-6	-1			
4000	1	1	2	3	3	3	4	-1	3	-3	-3	-4	-5	-3	-6	-8			
8000	1	2	3	4	4	3	4	-1	3	-3	-4	-4	-6	-6	-9	-6			
OVERALL	5	4	3	2	-1	-0	-1	-2	-1	-1	1	2	2	-1	-2	-3			

TABLE: DIRECTIVITY INDEX (DB)													IDENTIFICATION:												
6													OMEGA 1.4 TEST 75-002-019 RUN 05												
NOISE SOURCE/SUBJECT:													METEOROLOGY:												
(C-121G AIRCRAFT													(TEMP = 12 C												
(R-3350-93A ENGINE													(BAR PRESS = .749 M HG												
(FAR FIELD NOISE													(REL HUMID = 36 %												
(ALL ENGINES													(PAGE 4												
FREQ													ANGLE (DEGREES)												
((HZ)													(0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180												
1/3 OCTAVE																									
25													-2 -2												
31.5													-3 -3												
40													-4 -3												
50													-9 -7												
63													-12 -11												
80													-5 -4												
100													-5 -1												
125													-6 -4												
160													0 1												
200													-2 -1												
250													4 1												
315													2 3												
400													-1 -1												
500													0 0												
630													-0 -0												
800													-0 -0												
1000													-1 -1												
1250													-2 -2												
1600													-3 -3												
2000													-1 -2												
2500													-0 -1												
3150													-1 -1												
4000													-1 -1												
5000													-1 -1												
6300													-2 -2												
8000													-2 -2												
10000													-0 -1												
OCTAVE																									
31.5													-1 -2												
63													-11 -11												
125													-4 -2												
250													1 0												
500													-0 -1												
1000													-1 -1												
2000													-2 -2												
4000													-1 -1												
8000													-1 -1												
OVERALL													-4 -4												



5

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-01

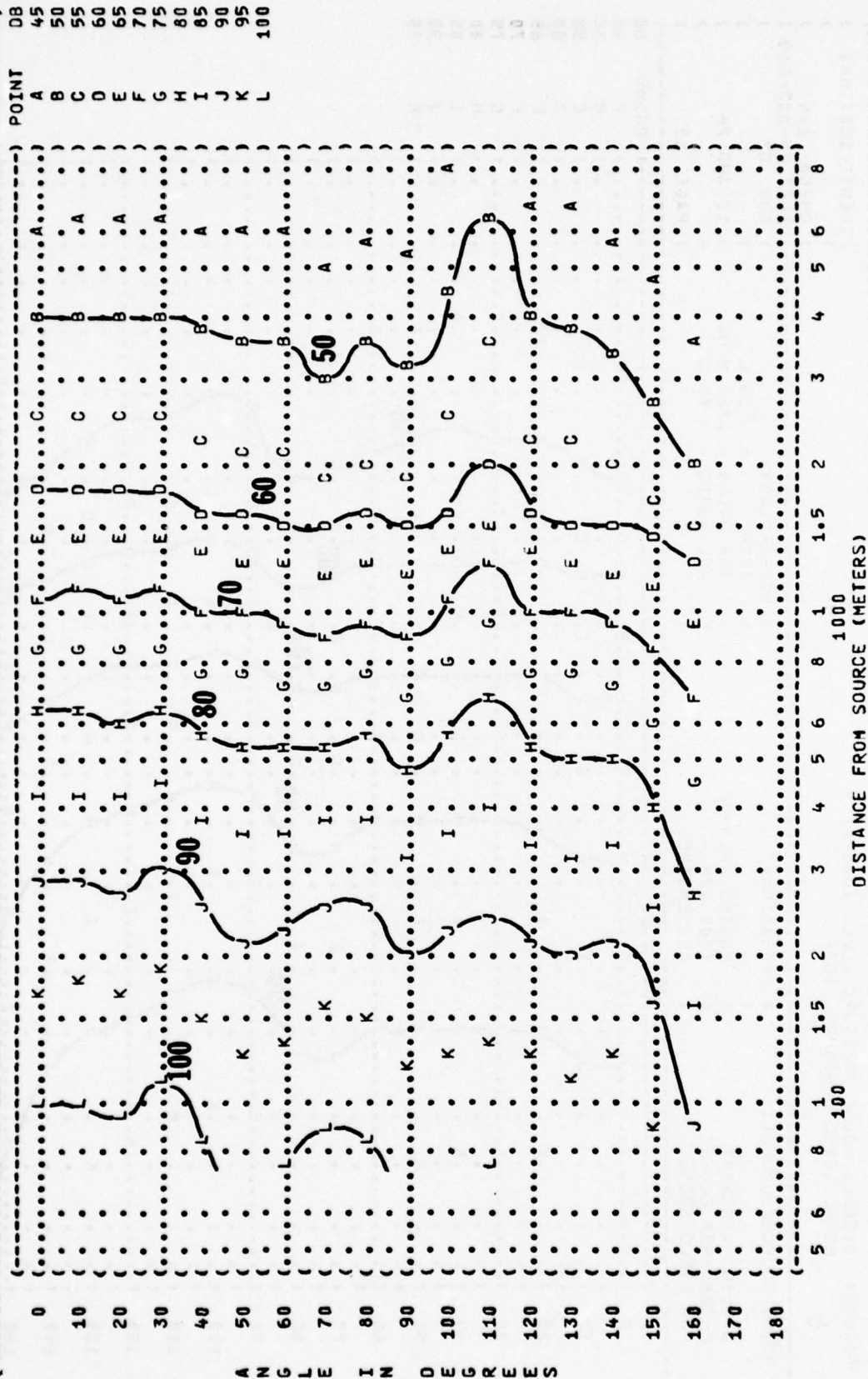
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NOISE SOURCE/SUBJECT:
( OPERATION: ) METEOROLOGY: ) RUN 02
( ) TEMP = 15 C )
( ENGINE WARM-UP ) BAR PRESS = .760 M HG )
( 1200 RPM ) REL HUMID = 70 % )
( ALL ENGINES ) PAGE 13
```

DB	POINT
0	A
10	B
20	C
30	D
40	E
50	F
60	G
70	H
80	I
90	J
95	K

426 LE IN OREGON

DISTANCE FROM SOURCE (METERS)


```
(-----)
( FIGURE# OVERALL SOUND PRESSURE LEVEL (OASPL) ) IDENTIFICATION: )
( EQUAL LEVEL CONTOURS (03) ) )
( 5 ) OMEGA 1.4 )
( ) TEST 75-002-019 )
( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )
( ( OPERATION: ) TEMP = 15 C )
( ( PROP SPEED CHECK ) BAR PRESS = .760 M HG )
( ( 1700 RPM ) REL HUMID = 70 % )
( ( ALL ENGINES ) )
( C-121G AIRCRAFT )
( R-3350-93A ENGINE )
( FAR FIELD NOISE ) PAGE 13
(-----)
```



(FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)
 (5
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (C-121G AIRCRAFT (POWER CHECK
 (R-3350-93A ENGINE (2050 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019
 (RUN 04
 (12 AUG 76
 (PAGE 13

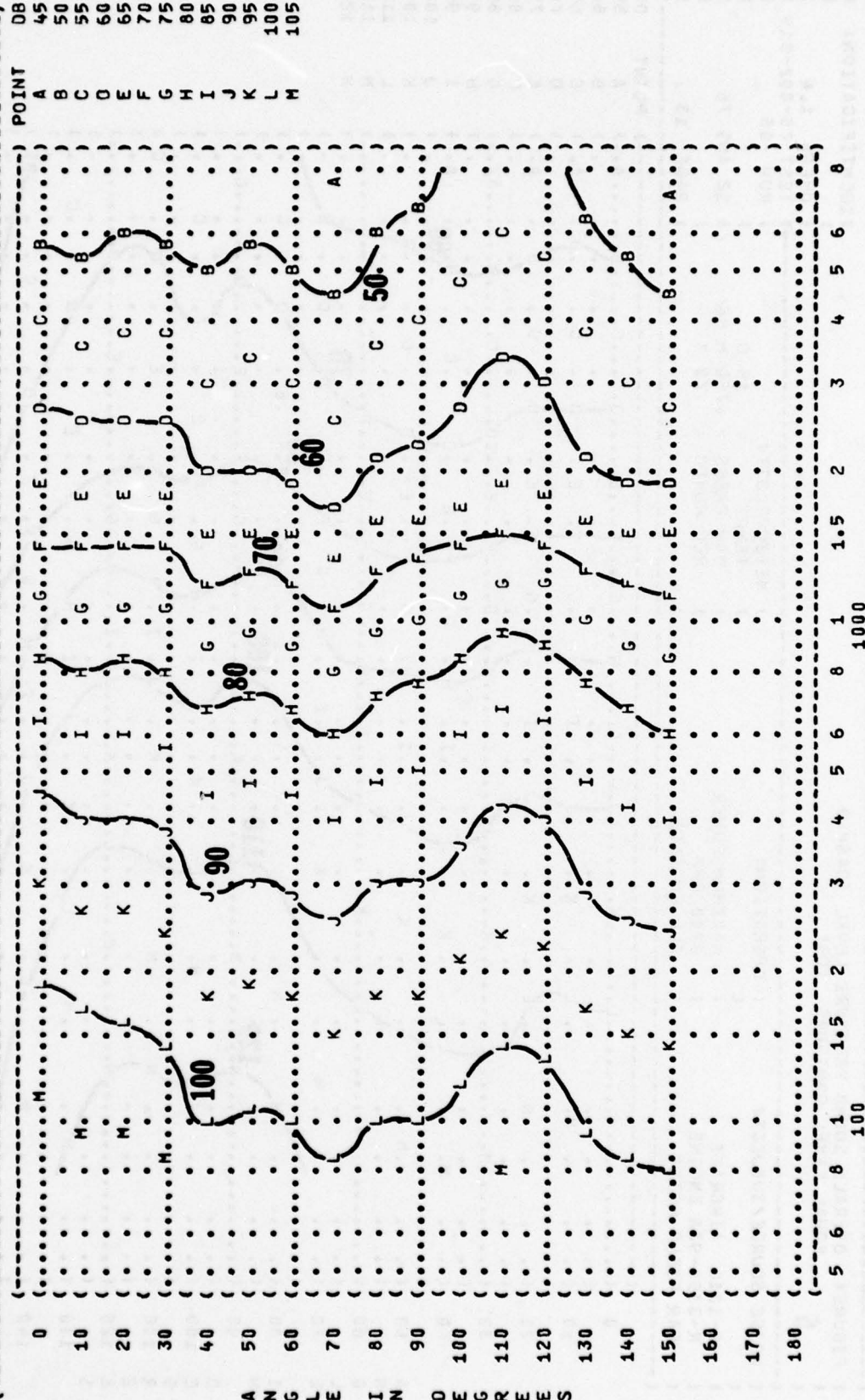


FIGURE 5 OVERALL SOUND PRESSURE LEVEL (OASPL)
EQUAL LEVEL CONTOURS (DB)

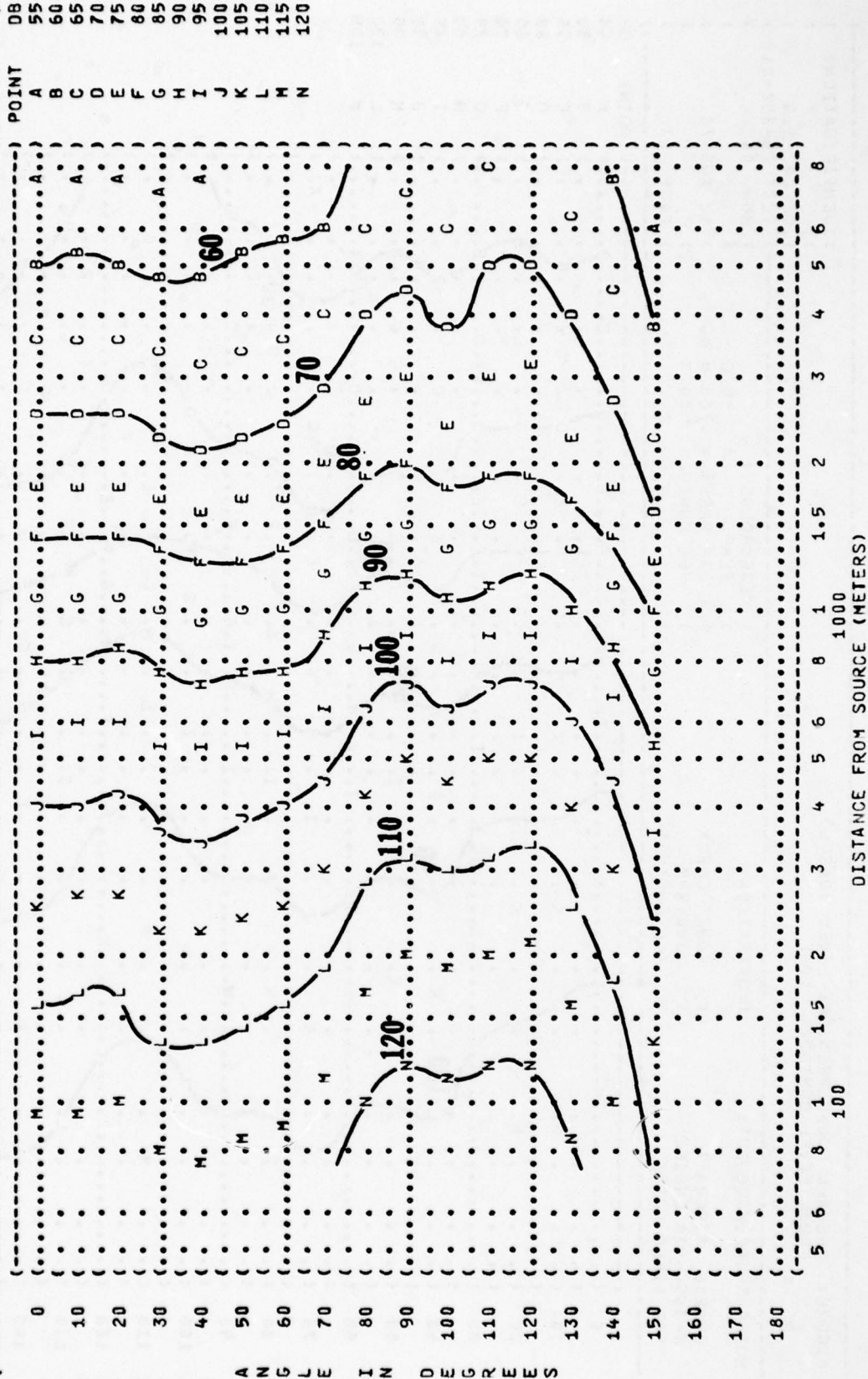
IDENTIFICATION:
OMEGA 1.4
TEST 75-002-019
RUN 05

NOISE SOURCE/SUBJECT:
C-121G AIRCRAFT
R-3350-93A ENGINE
FAR FIELD NOISE

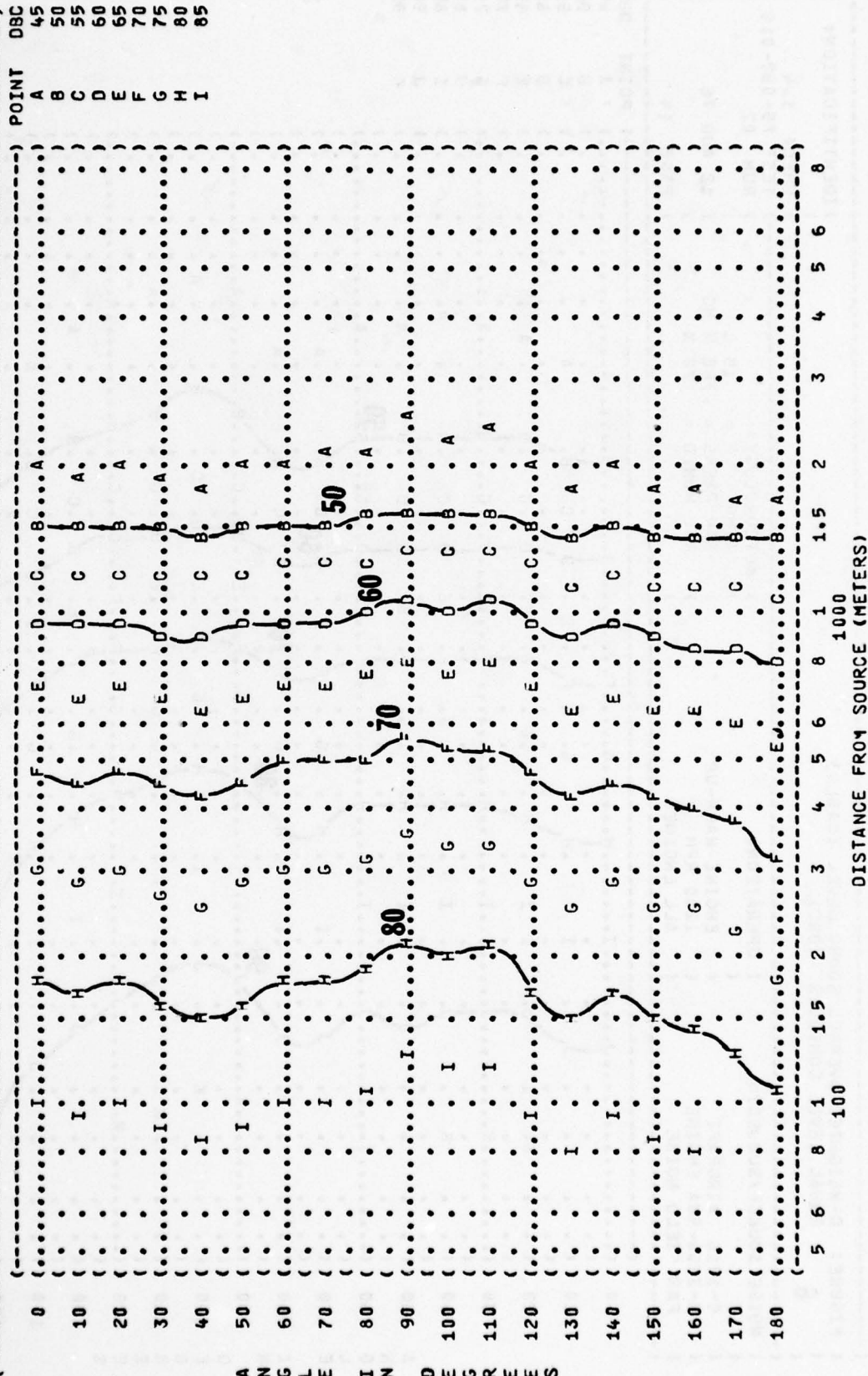
OPERATION:
MAXIMUM POWER
2900 RPM
ALL ENGINES

METEOROLOGICAL:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %

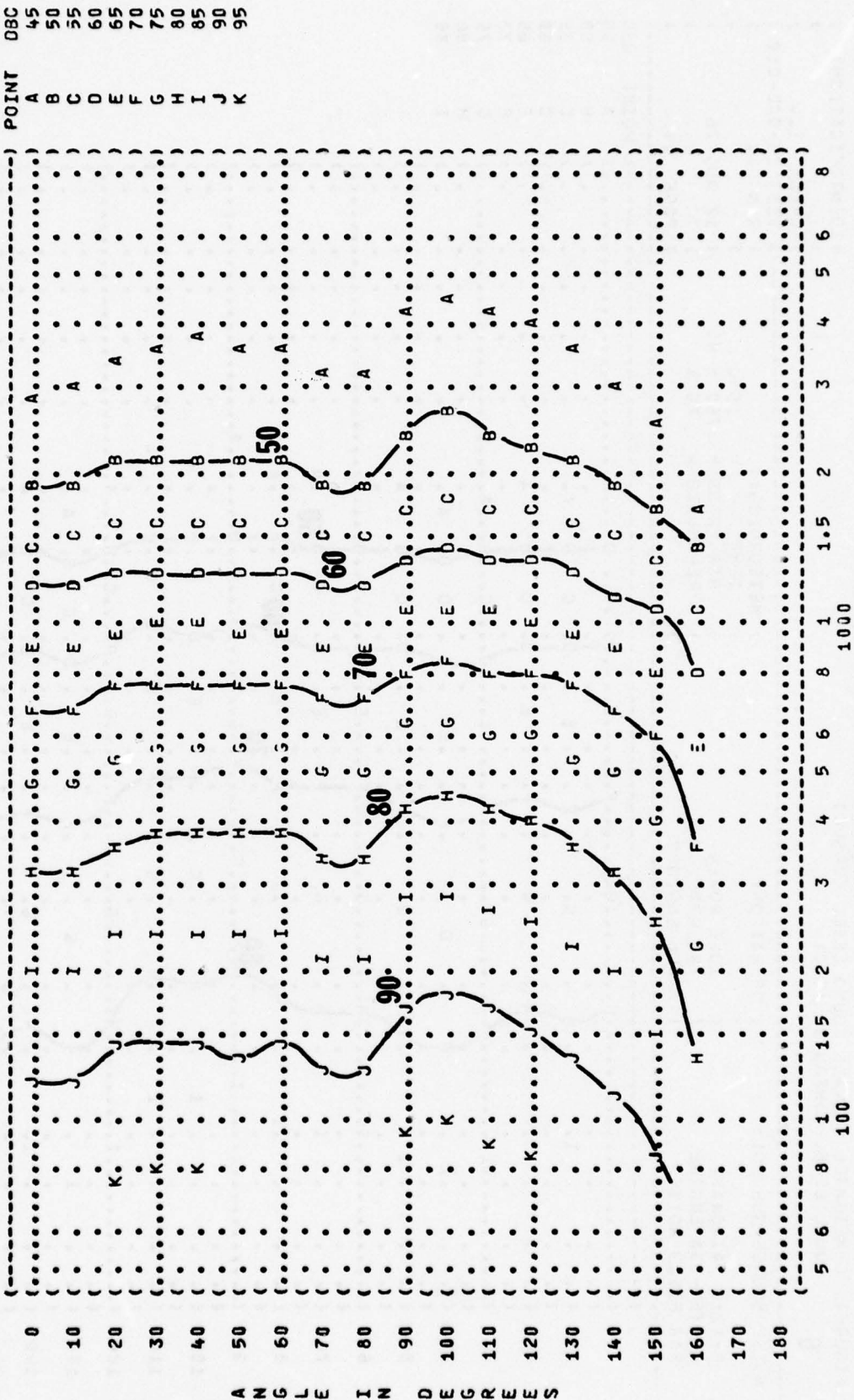
PAGE 13



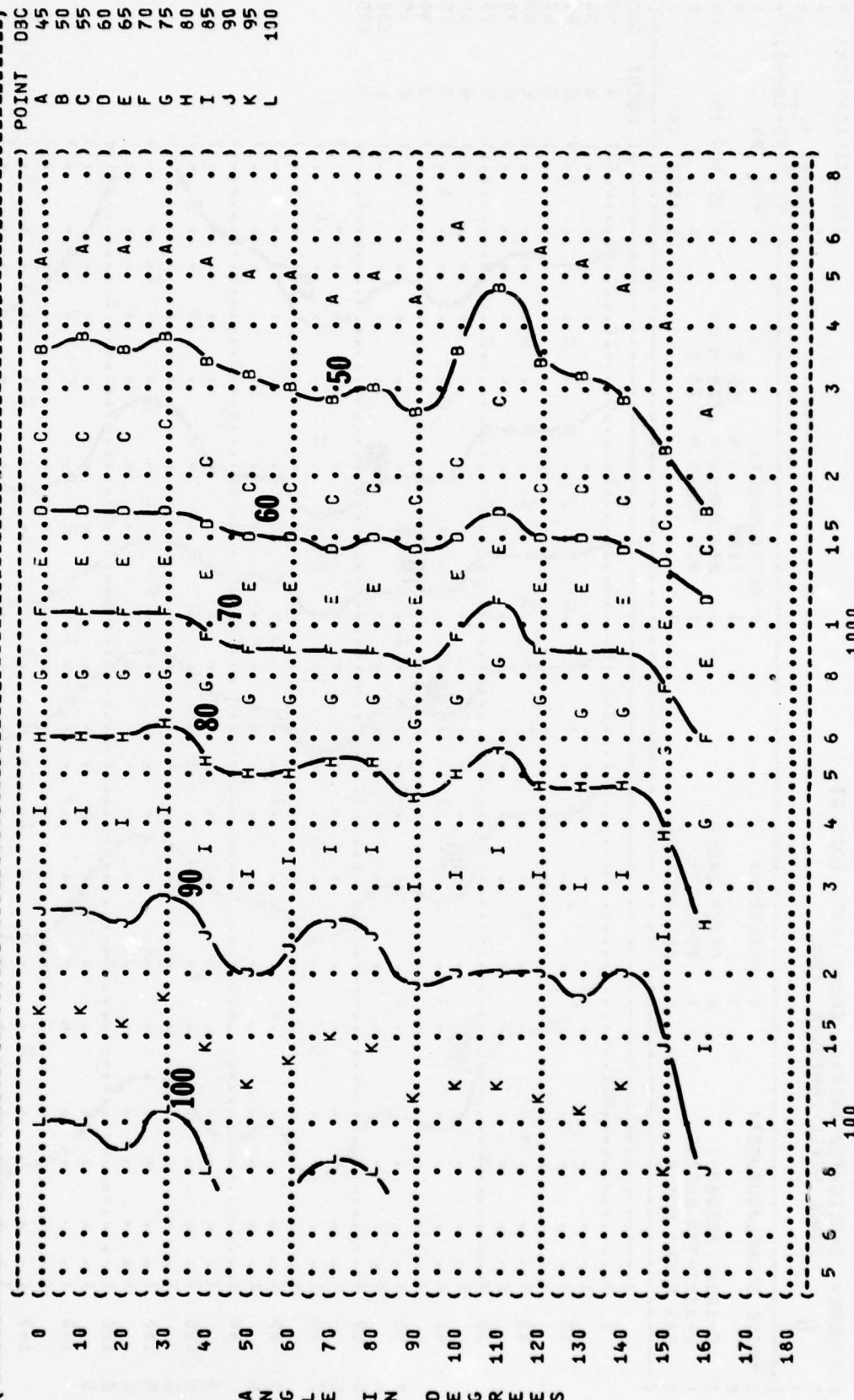
(FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
 (EQUAL LEVEL CONTOURS (DBC)
 (6
 (NOISE SOURCE/SUBJECT: (OPERATION: (METEOROLOGY: (POINT DBC
 (C-121G AIRCRAFT (IDLE POWER (TEMP = 15 C (A 45
 (R-3350-93A ENGINE (700 RPM (BAR PRESS = .760 M HG (B 50
 (FAR FIELD NOISE (ALL ENGINES (REL HUMID = 70 % (C 55
 ((((((12 AUG 76 (D 60
 ((((((RUN 01 (E 65
 ((((((PAGE 14 (F 70
 (((((((((((G 75
 (((((((((((H 80
 (((((((((((I 85



(FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC)
 (EQUAL LEVEL CONTOURS (DBC)
 (6
 (NOISE SOURCE/SUBJECT: (OPERATION:
 ((C-121G AIRCRAFT
 (R-3350-93A ENGINE 1200 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 () OMEGA 1.4
 () TEST 75-002-019
 () RUN 02
 () 12 AUG 76
 () PAGE 14

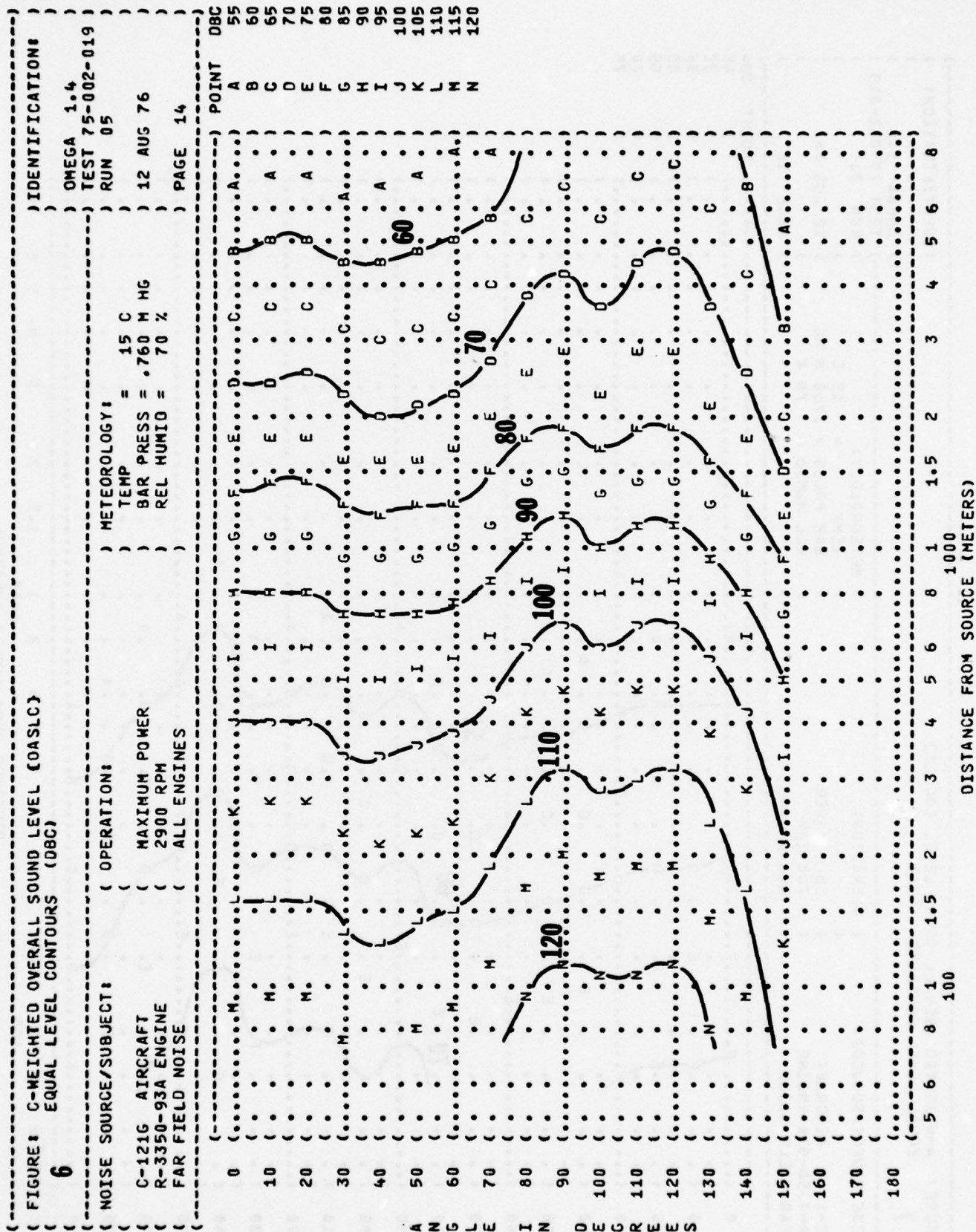


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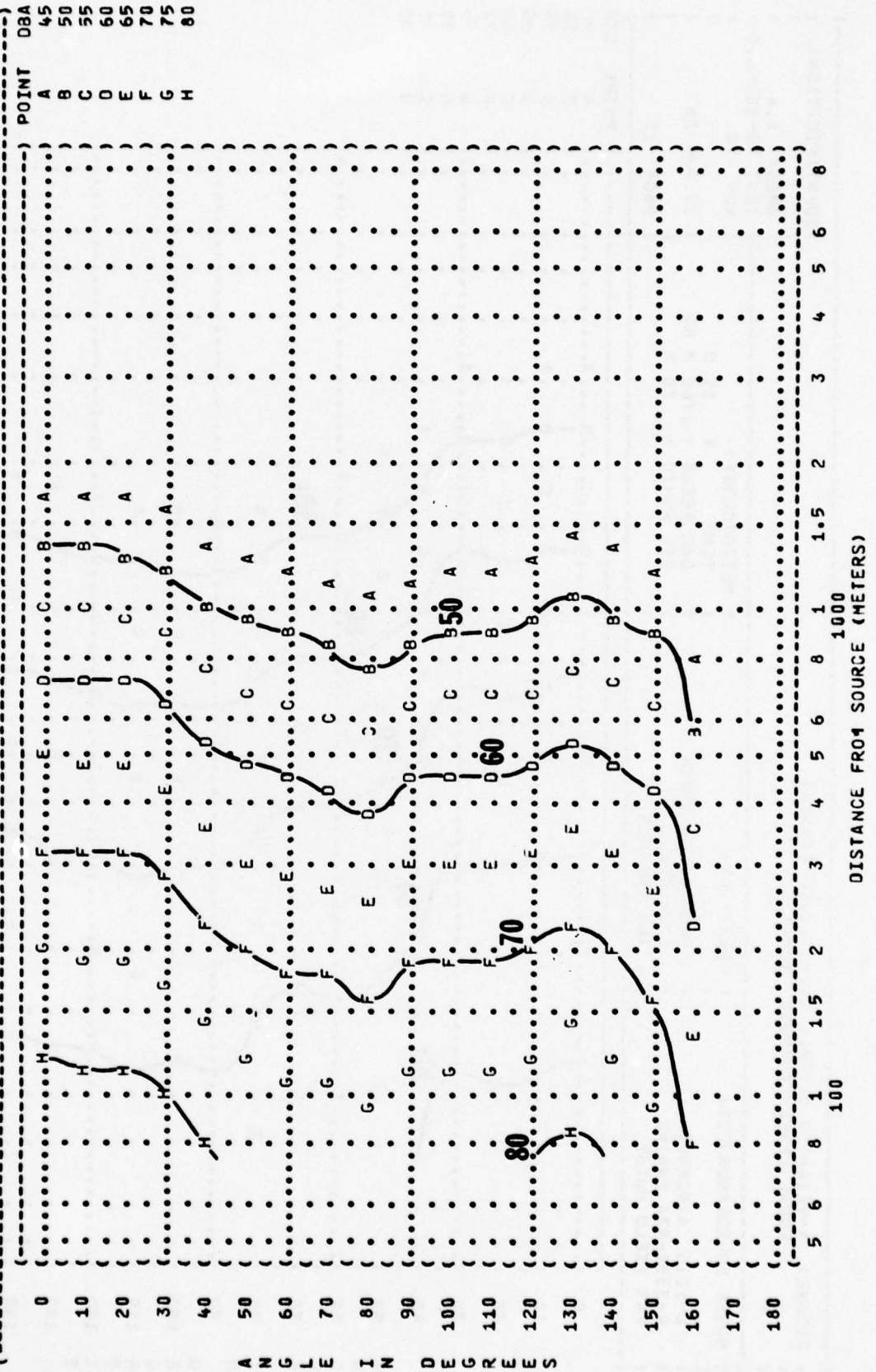
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1000
DISTANCE FROM SOURCE (METERS)

DISTANCE FROM SOURCE (METERS)



(FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
 (7
 (EQUAL LEVEL CONTOURS (DBA)
 () IDENTIFICATION:
 () OMEGA 1.4
 () TEST 75-002-019
 () RUN 02
 () METEOROLOGY:
 () TEMP = 15 C
 () BAR PRESS = .760 M HG
 () REL HUMID = 70 %
 () 12 AUG 76
 () PAGE 15
 (NOISE SOURCE/SUBJECT: (OPERATION:
 ((ENGINE WARM-UP
 ((1200 RPM
 ((ALL ENGINES
 (C-121G AIRCRAFT
 (R-3350-93A ENGINE
 (FAR FIELD NOISE



7

IDENTIFICATION:

OMEGA 1.4

TEST 75-002-019

RUN 03

0 PAGE 15

1) METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

OPERATION:

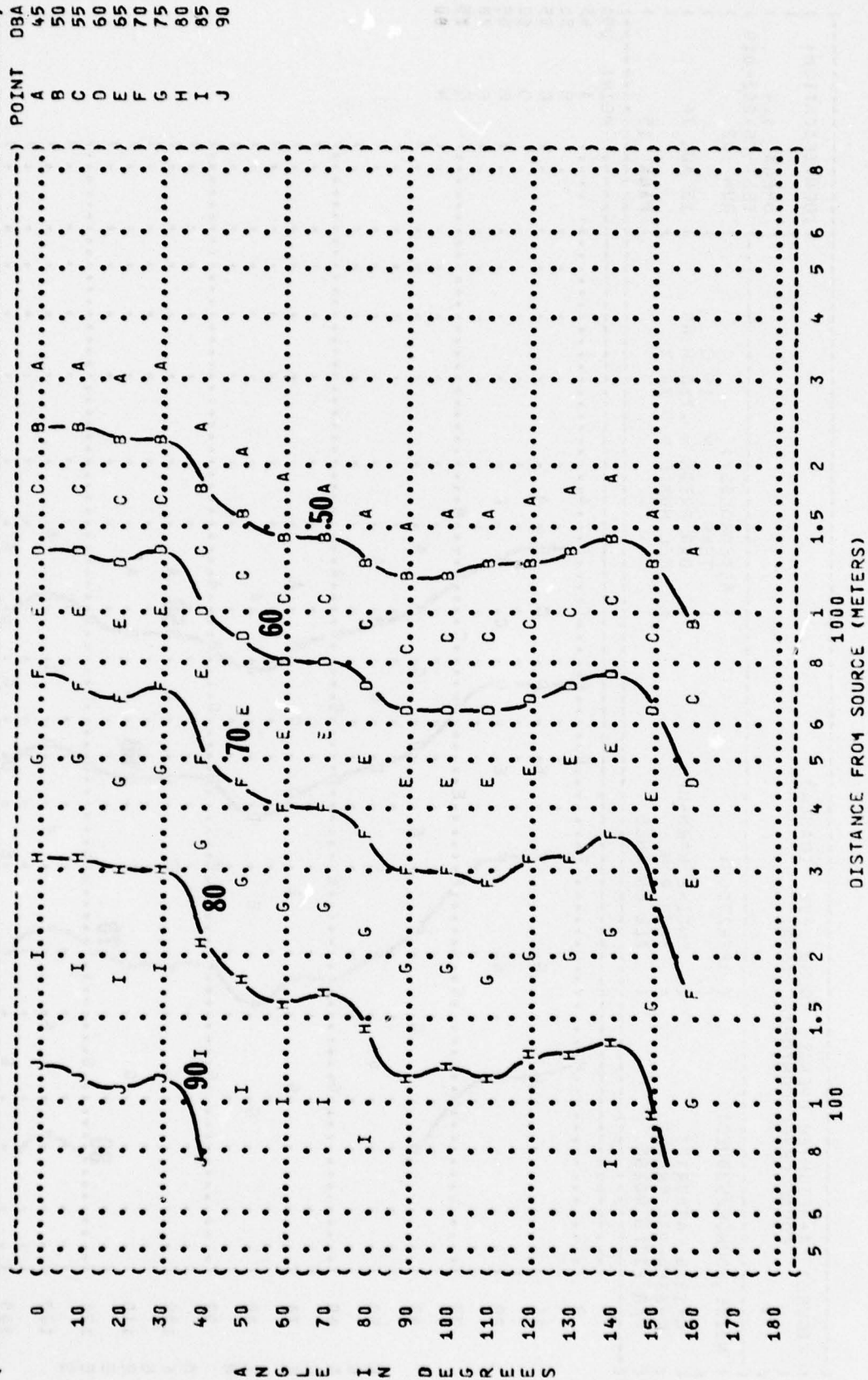
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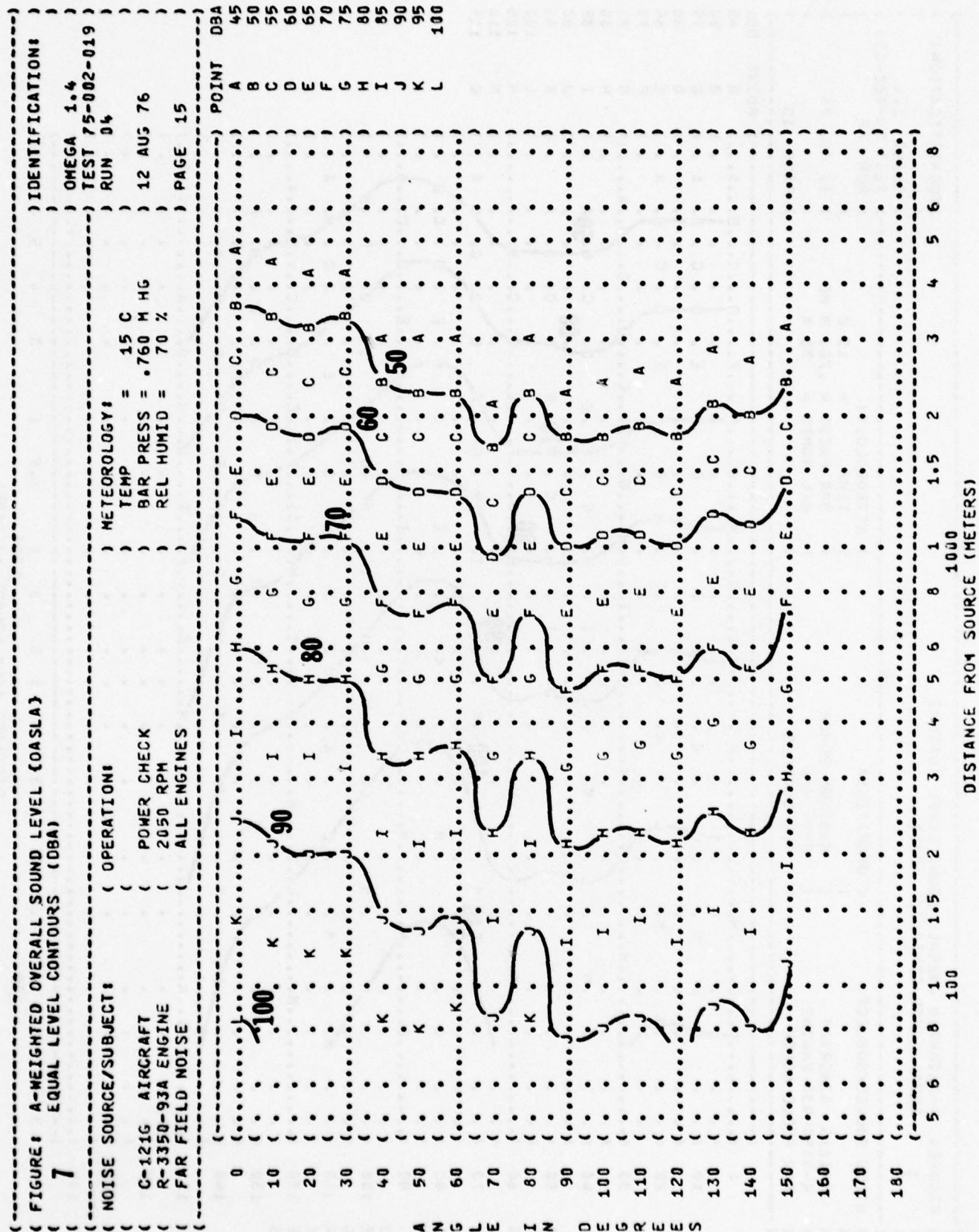
1700 RPM

SOURCE/SUBJECT:

C-121G AIRCRAFT

R-3350-93A ENGINE





7

IDENTIFICATION:

OMEGA 1.4

TEST 75-002-019

RUN 05

METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 M HG) 12 AUG 76

REL HUMID = 70 %

PAGE 15

OPERATION:

MAXIMUM POWER

2900 RPM

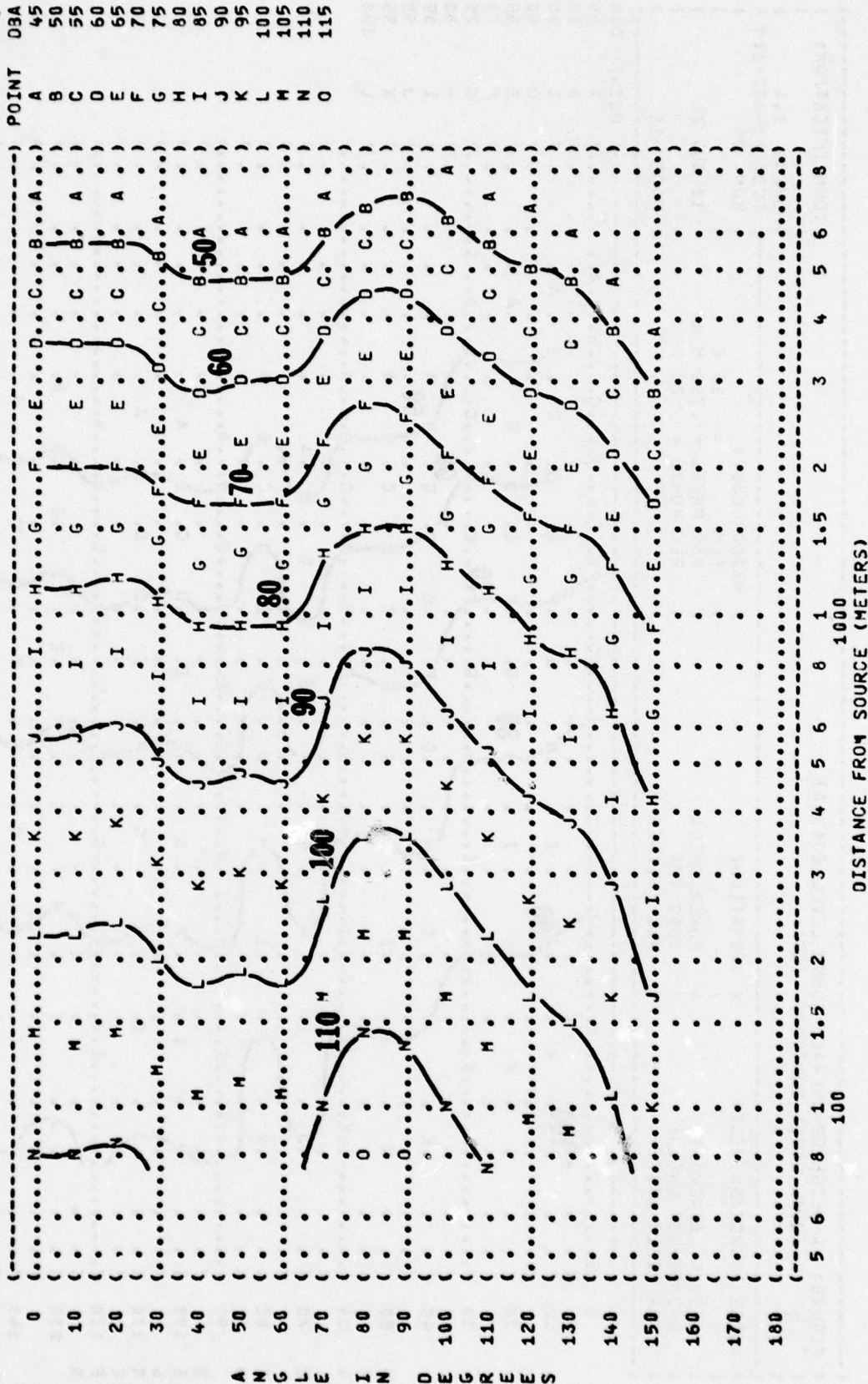
ALL ENGINES

NOISE SOURCE/SUBJECT:

C-121G AIRCRAFT

R-3350-93A ENGINE

FAR FIELD NOISE



1000
DISTANCE FROM SOURCE (METERS)

FIGURE 8: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION {PNLT} EQUAL LEVEL CONTOURS (PNDB)

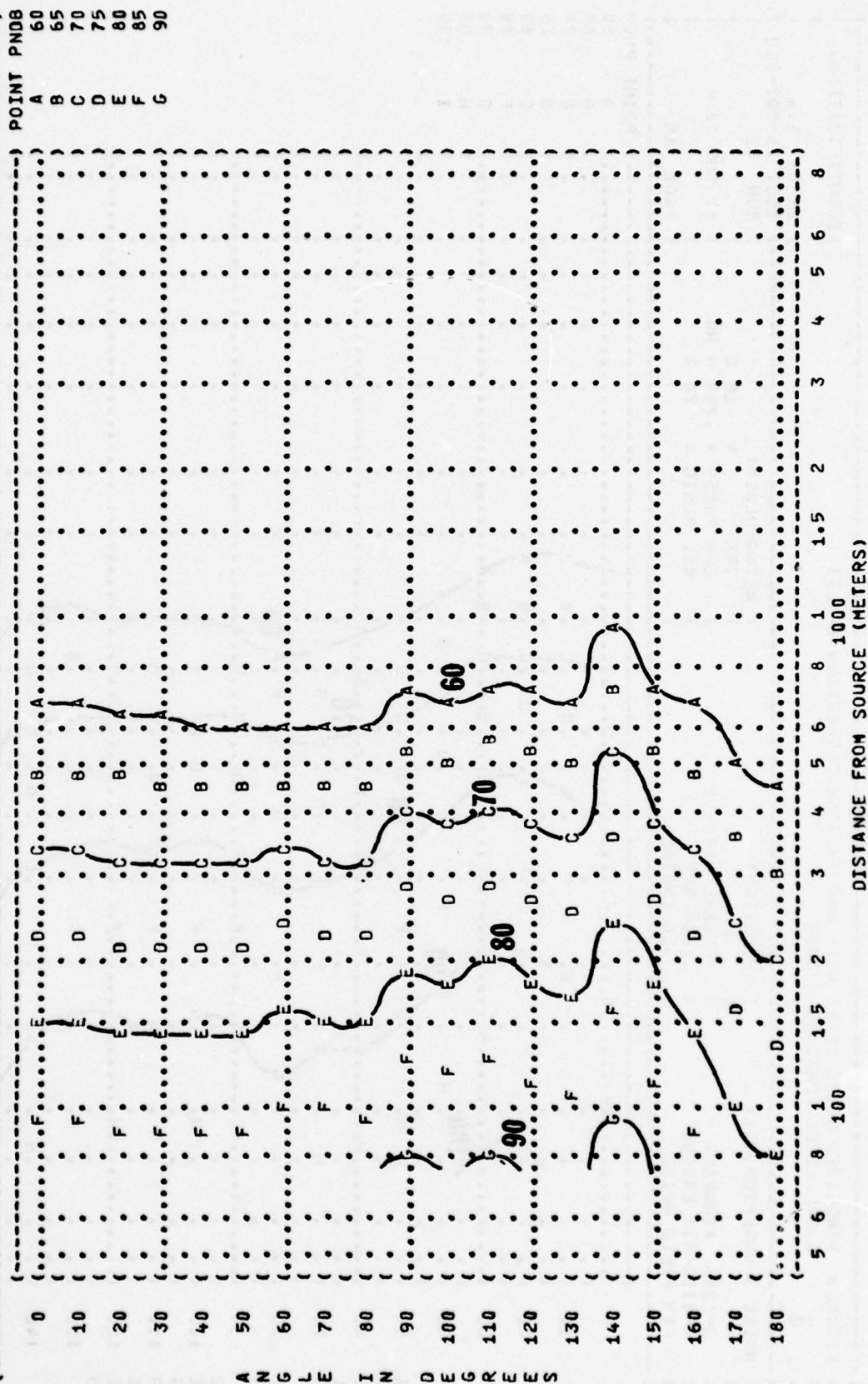
EQUAL LEVEL CONTOURS (PNDB)

8

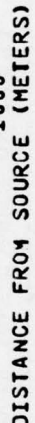
FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT)
EQUAL LEVEL CONTOURS (PNDB)

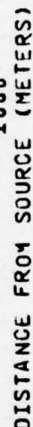
8

NOISE SOURCE/SUBJECT:	OPERATION:	METEOROLOGY:	IDENTIFICATION:
C-121G AIRCRAFT	IDLE POWER	TEMP = 15 C	OMEGA 1.4
R-3350-93A ENGINE	700 RPM	BAR PRESS = .760 H HG	TEST 75-002-019
FAR FIELD NOISE	ALL ENGINES	REL HUMID = 70 %	RUN 01
			12 AUG 76
			PAGE 16



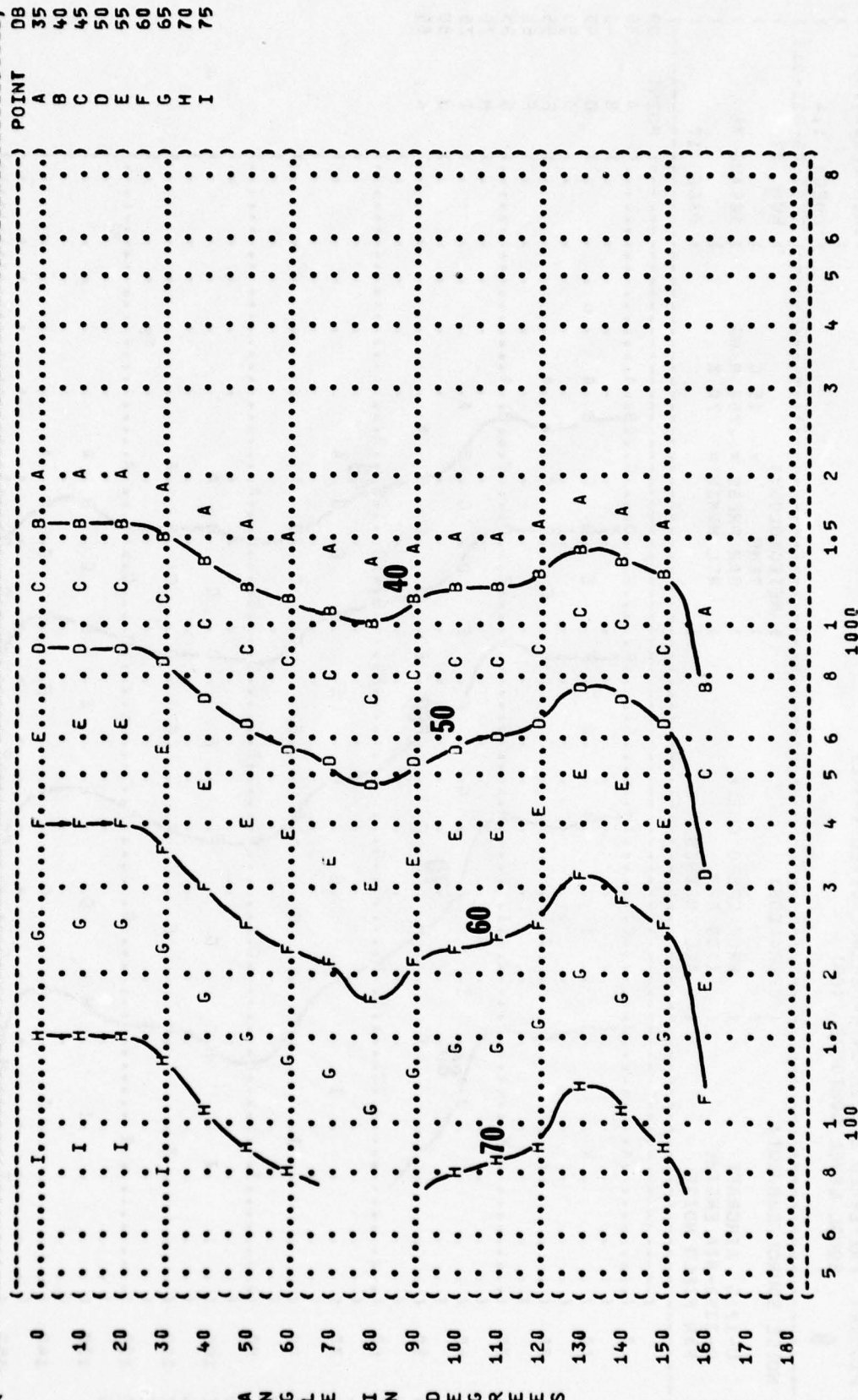
NOISE SOURCE/SUBJECT:
C-121G AIRCRAFT
R-3350-93A ENGINE
FAR FIELD NOISE



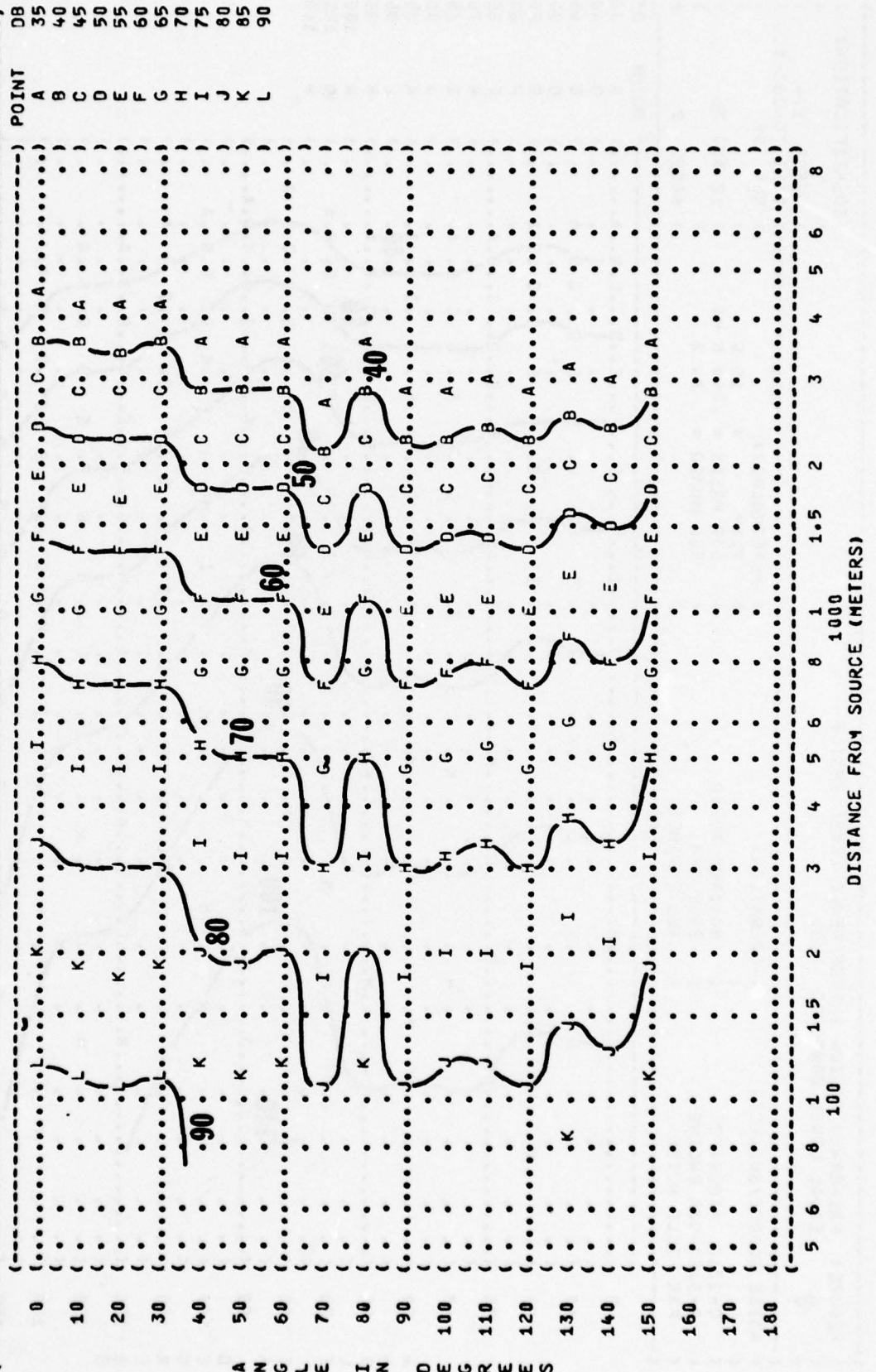
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52

() IDENTIFICATION: ()
 ()
 () OMEGA 1.4
 () TEST 75-002-019
 () RUN 02
 ()
 () NOISE SOURCE/SUBJECT: () OPERATION: () METEOROLOGY: ()
 () C-121G AIRCRAFT () ENGINE WARM-UP () TEMP = 15 C
 () R-3350-93A ENGINE () 1200 RPM () BAR PRESS = .760 M HG
 () FAR FIELD NOISE () ALL ENGINES () REL HUMID = 70 %
 () PAGE 17



(FIGURE: 9
 (PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)
 (EQUAL LEVEL CONTOURS (DB)
 (IDENTIFICATION:
 ()
 () OMEGA 1.4
 () TEST 75-002-019
 () RUN 04
 (NOISE SOURCE/SUBJECT: (OPERATION:
 () METEOROLOGY:
 () TEMP = 15 C
 () BAR PRESS = .760 M HG
 () REL HUMID = 70 %
 () 12 AUG 76
 () PAGE 17
 ()



IDENTIFICATION:

1.4

1) METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG

REL HUMID = 70 %

PAGE 17

.....

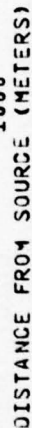


FIGURE:	MAXIMUM PERMISSIBLE TIME {T} FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)	IDENTIFICATION:
EQUAL TIME CONTOURS (MINUTES)		
10		OMEGA 1.4
		TEST 75-002-019
		RUN 01
NOISE SOURCE/SUBJECT:	METEOROLOGY:	
	TEMP = 15 C	
C-121G AIRCRAFT	IDLE POWER	12 AUG 76
R-3350-93A ENGINE	700 RPM	
FAR FIELD NOISE	ALL ENGINES	PAGE 7

Distance (Meters)	Personnel Exposure Time (Minutes)	Ear Protection Conditions
0	Up to 360	No Protection
10	Up to 360	Minimum QPL Ear Muffs
20	Up to 360	American Optical 1700 Ear Muffs
30	Up to 360	V-51R Ear Plugs
40	Up to 360	COMFIT Triple Flange Ear Plugs
50	Up to 360	H-133 Ground Communication Unit
60	Up to 360	
70	Up to 360	
80	Up to 360	
90	Up to 360	
100	Up to 360	
110	Up to 360	
120	Up to 360	
130	Up to 360	
140	Up to 360	
150	Up to 360	
160	Up to 360	
170	Up to 360	
180	Up to 360	

1960
DISTANCE FROM SOURCE (METERS)

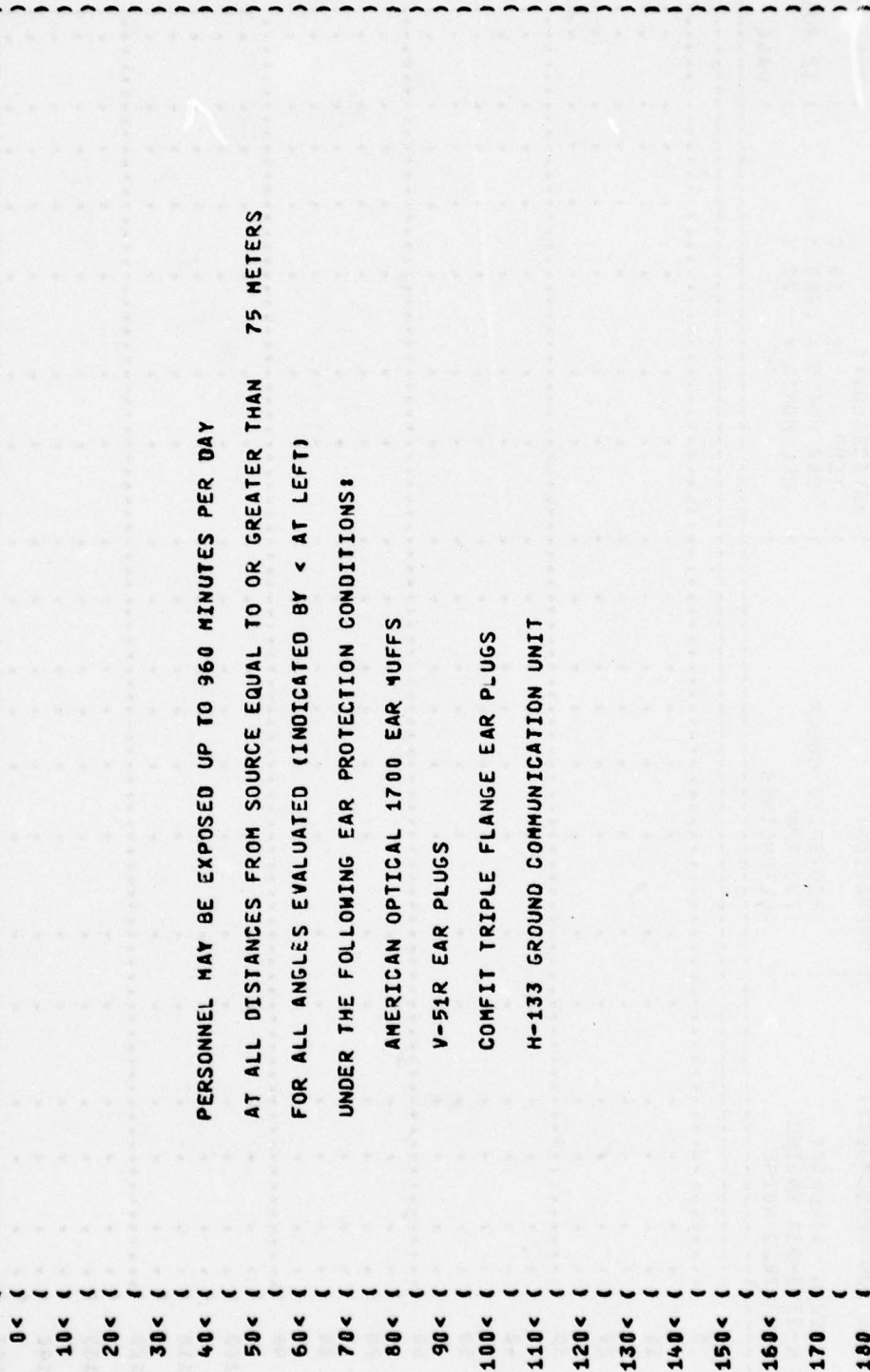
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PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY
AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS
FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)
UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

MINIMUM QPL EAR MUFFS
AMERICAN OPTICAL 1700 EAR MUFFS
V-51R EAR PLUGS
COMFIT TRIPLE FLANGE EAR PLUGS
H-133 GROUND COMMUNICATION UNIT

DISTANCE FROM SOURCE (METERS)

FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) IDENTIFICATION:
 10
 NOISE SOURCE/SUBJECT: OPERATION: METEOROLOGY: OMEGA 1.4
 C-121G AIRCRAFT PROP SPEED CHECK TEMP = 15 C TEST 75-002-019
 R-3350-93A ENGINE 1700 RPM BAR PRESS = .760 M HG RUN 03
 FAR FIELD NOISE ALL ENGINES REL HUMID = 70 % 12 AUG 76
 PAGE 9



PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY
 AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS

FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)

UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

AMERICAN OPTICAL 1700 EAR MUFFS

V-51R EAR PLUGS

COMFIT TRIPLE FLANGE EAR PLUGS

H-133 GROUND COMMUNICATION UNIT

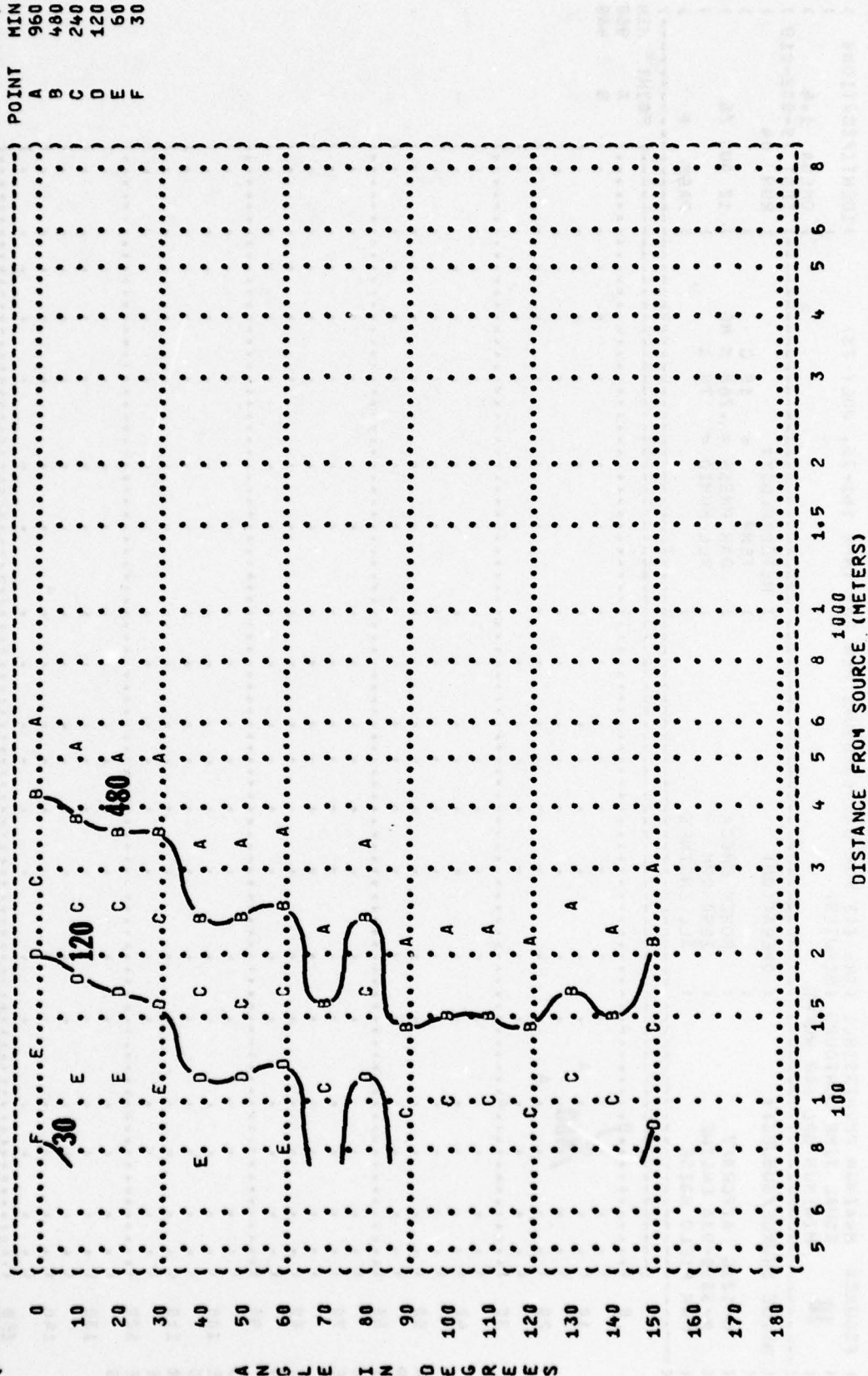
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 DISTANCE FROM SOURCE (METERS)

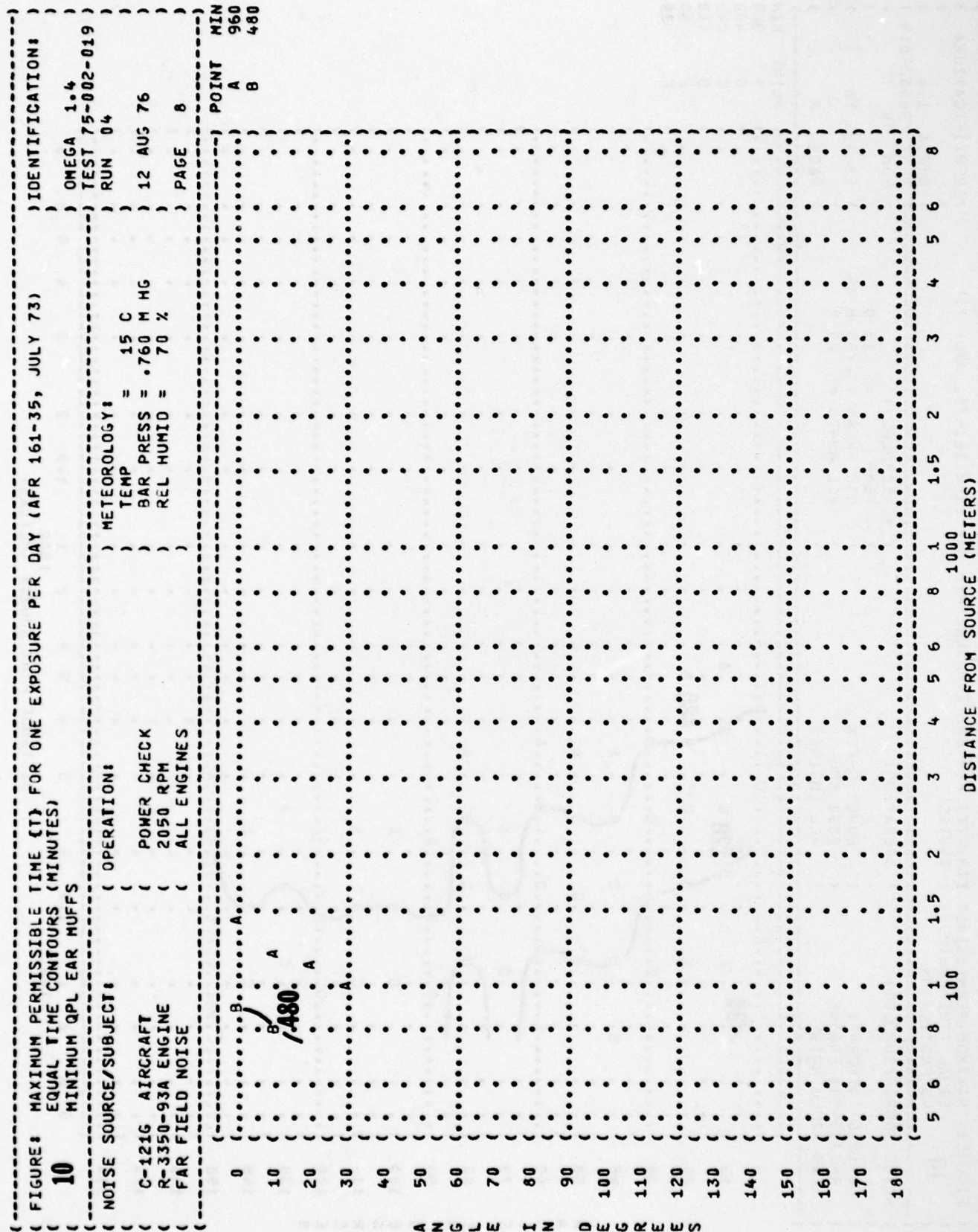
ANGLES

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(-----)
( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION:
( EQUAL TIME CONTOURS (MINUTES) ) )
( 10 ) )
( NO PROTECTION ) OMEGA 1.4
( ) TEST 75-002-019
( NOISE SOURCE/SUBJECT: ) )
( ( OPERATION: ) METEOROLOGY: )
( ( ) ) )
( ( POWER CHECK ) TEMP = 15 C )
( ( 2050 RPM ) BAR PRESS = .760 M HG )
( ( ALL ENGINES ) REL HUMID = 70 % )
( FAR FIELD NOISE ) )
(-----)

```





(FIGURE MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)) IDENTIFICATION:)
 () EQUAL TIME CONTOURS (MINUTES))
 (10 AMERICAN OPTICAL 1700 EAR MUFFS) OMEGA 1.4
 () TEST 75-002-019)
 (NOISE SOURCE/SUBJECT:) METEOROLOGY:) RUN 04
 ()) TEMP = 15 C)
 (C-121G AIRCRAFT) POWER CHECK) 12 AUG 76
 (R-3350-93A ENGINE) 2050 RPM)
 (FAR FIELD NOISE) ALL ENGINES) PAGE 9

	POINT MIN									
	A 950									
0	((((((((((
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90	((((((((((
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130	((((((((((
140	((((((((((
150	((((((((((
160	((((((((((
170	((((((((((
180	((((((((((

5 6 8 1 1.5 2 3 4 5 6 8
 100
 1000
 DISTANCE FROM SOURCE (METERS)

A N G L E I N D E S R E E S

```
(-----)
( FIGURE: MAXIMUM PERMISSIBLE TIME {T} FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION:
(      ) )
(      ) )
(      ) ) OMEGA 1.4
(      ) ) TEST 75-002-019
( NOISE SOURCE/SUBJECT: ) METEOROLOGY:
(      ) ) TEMP = 15 C
(      ) ) POWER CHECK ) BAR PRESS = .760 M HG
(      ) ) 2050 RPM ) REL HUMID = 70 %
(      ) ) ALL ENGINES )
( FAR FIELD NOISE ) PAGE 10
(-----)
```

PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY
AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS
FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)
UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

V-51R EAR PLUGS
COMFIT TRIPLE FLANGE EAR PLUGS
H-133 GROUND COMMUNICATION UNIT

(-----)

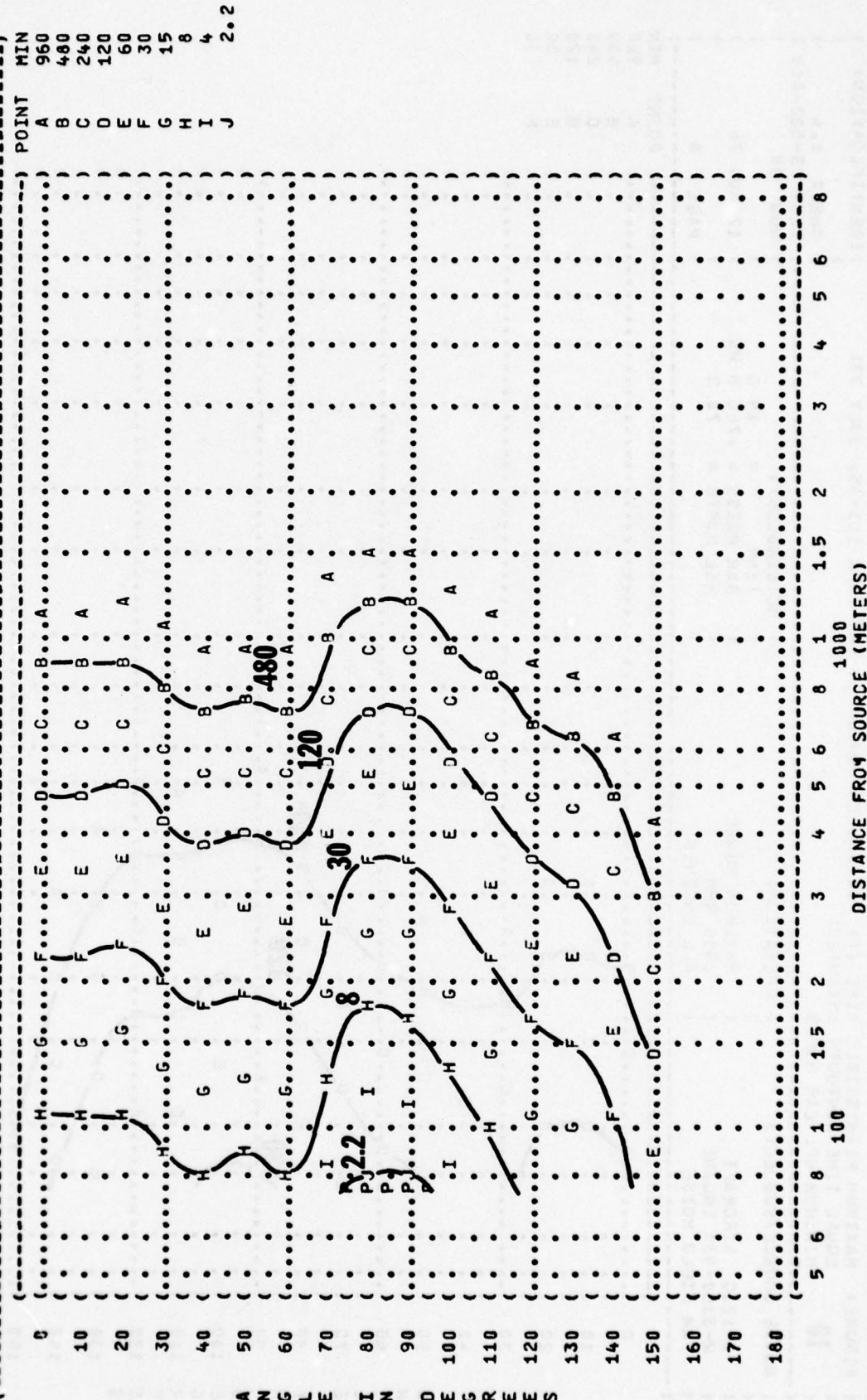
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			100															

DISTANCE FROM SOURCE (METERS)


```

( ( ( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )
( ( ( 10 EQUAL TIME CONTOURS (MINUTES) ) ) )
( ( ( NO PROTECTION ) ) )
( ( ( NOISE SOURCE/SUBJECT: ) ) )
( ( ( C-121G AIRCRAFT ) ) )
( ( ( R-3350-93A ENGINE ) ) )
( ( ( FAR FIELD NOISE ) ) )
( ( ( OPERATION: ) ) )
( ( ( MAXIMUM POWER ) ) )
( ( ( 2900 RPM ) ) )
( ( ( ALL ENGINES ) ) )
( ( ( METEOROLOGY: ) ) )
( ( ( TEMP = 15 C ) ) )
( ( ( BAR PRESS = .760 M HG ) ) )
( ( ( REL HUMID = 70 % ) ) )
( ( ( TEST 75-002-019 ) ) )
( ( ( RUN 05 ) ) )
( ( ( OMEGA 1.4 ) ) )
( ( ( PAGE 7 ) ) )

```



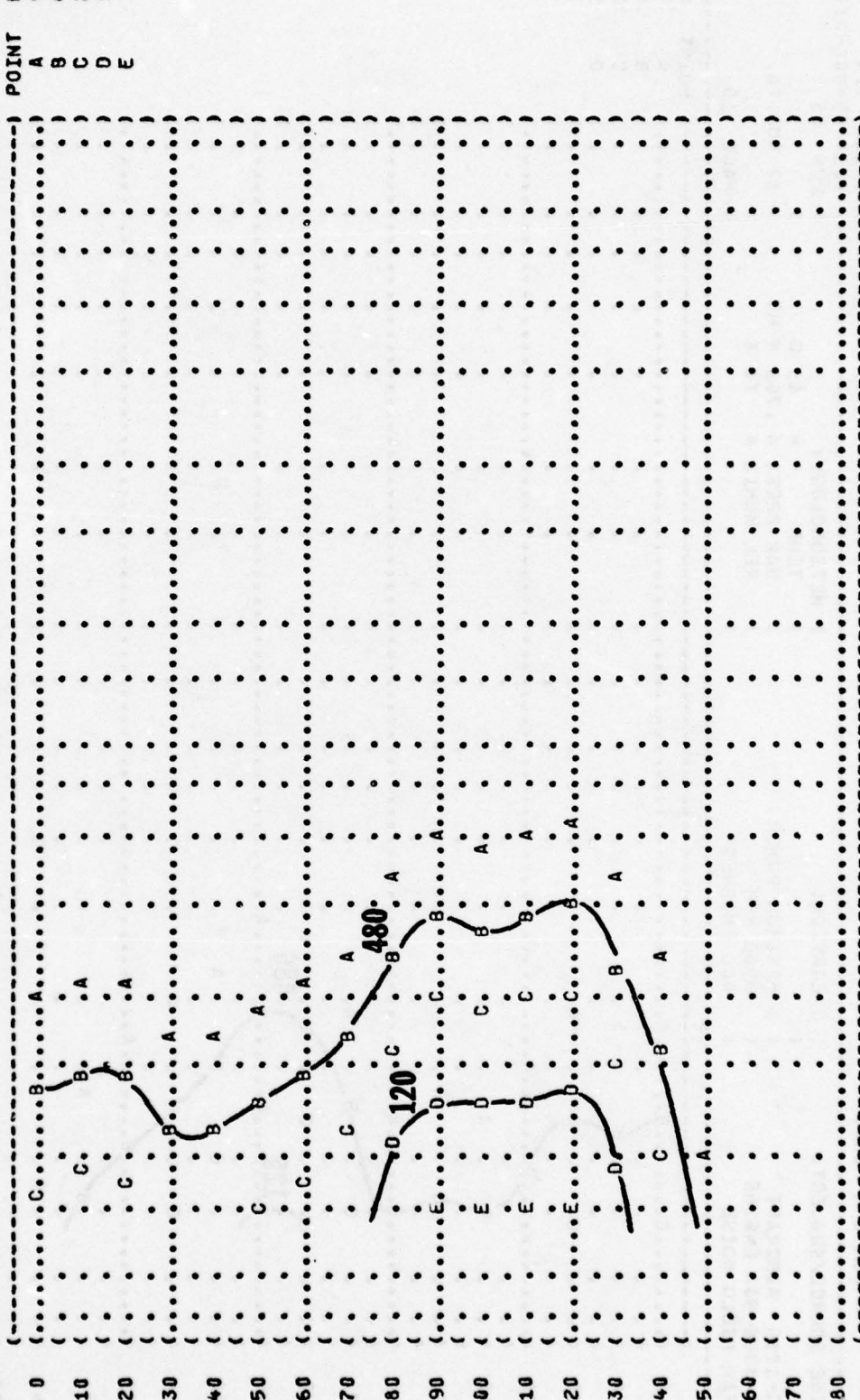
ADDITIONAL EAR PROTECTION REQUIRED.


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) ISSE SOURCE/SUBJECT:
( ( OPERATION:
( ( MAXIMUM POWER
( ( 2900 RPM
( ( ALL ENGINES
) ) METEOROLOGY:
) ) TEMP = 15 C
) ) BAR PRESS = .760 M HG
) ) REL HUMID = 70 %
) ) PAGE 9
) RUN 05

```

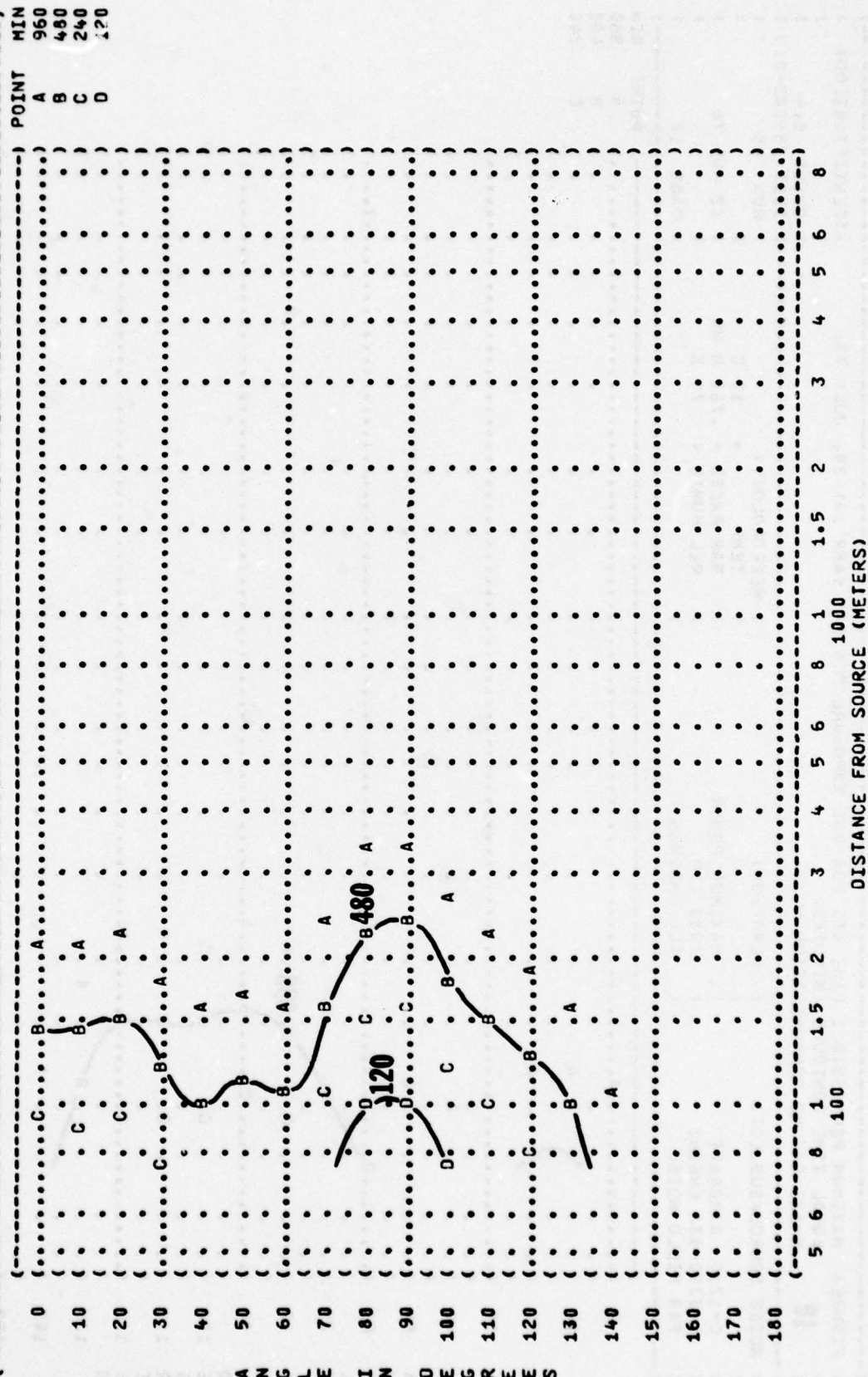
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	A	B	C	D	E
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1000

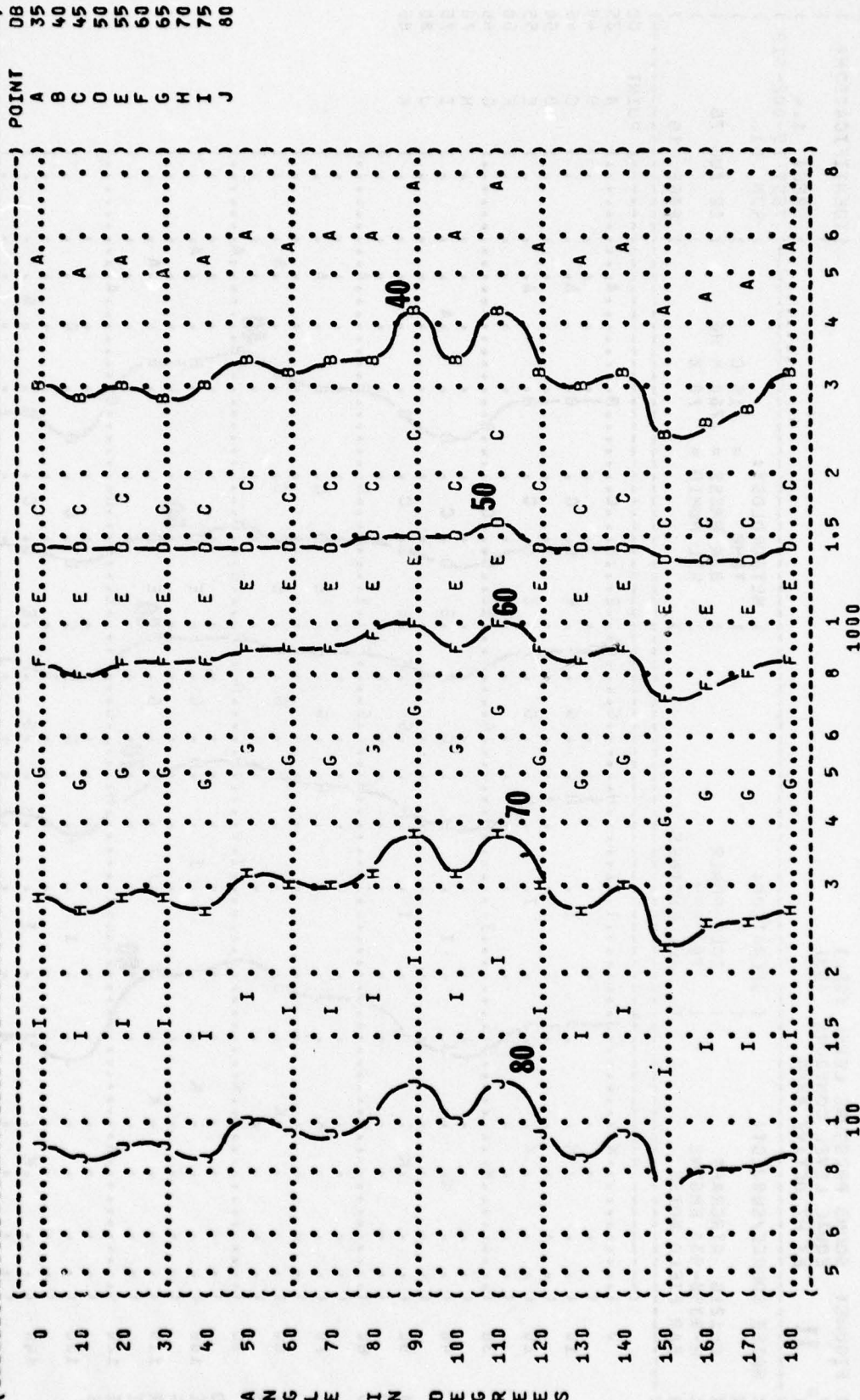
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((FIGURE: MAXIMUM PERMISSIBLE TIME {T} FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73))	IDENTIFICATION:
(	(	EQUAL TIME CONTOURS (MINUTES))	
(	(	COMFIT TRIPLE FLANGE EAR PLUGS	)	OMEGA 1.4
(	(		)	TEST 75-002-019
(	(	NOISE SOURCE/SUBJECT:	)	RUN 05
(	(	OPERATION:)	
(	(	TEMP)	
(	(	MAXIMUM POWER	)	15 C
(	(	2900 RPM	)	BAR PRESS = .760 M HG
(	(	ALL ENGINES	)	REL HUMID = 70 %
(	(	FAR FIELD NOISE	)	PAGE 11



DISTANCE FROM SOURCE (METERS)

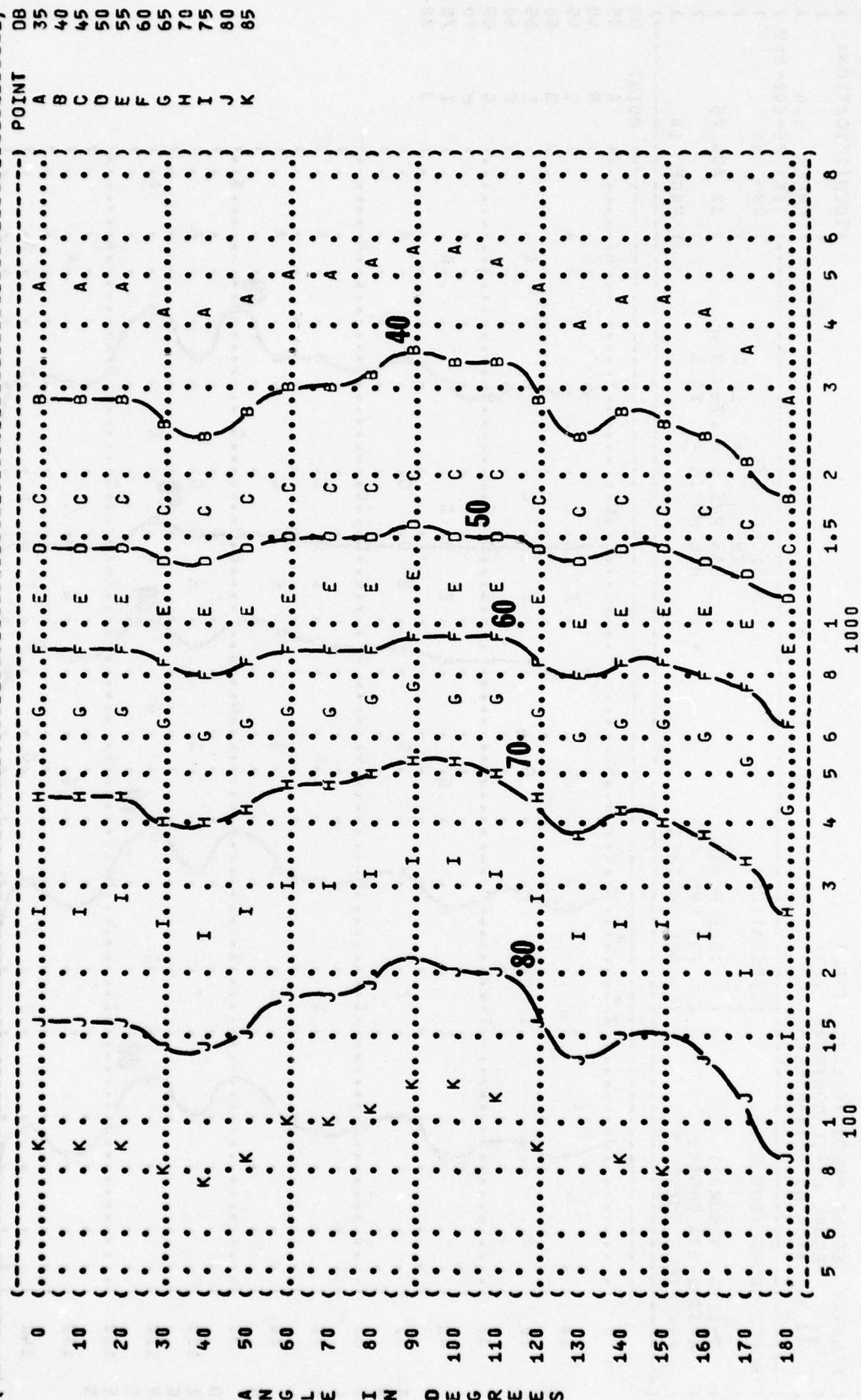
(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (D3)
 (31.5 HZ OCTAVE BAND
 (11
 (NOISE SOURCE/SUBJECT: (OPERATION: (METEOROLOGY: (POINT DB
 (C-121G AIRCRAFT (IDLE POWER (TEMP = 15 C (A 35
 (R-3350-93A ENGINE (700 RPM (BAR PRESS = .760 M HG (B 40
 (FAR FIELD NOISE (ALL ENGINES (REL HUMID = 70 % (C 45
 (((((RUN 01 (D 50
 (((((12 AUG 76 (E 55
 (((((PAGE 18 (F 60
 ((((((G 65
 ((((((H 70
 ((((((I 75
 ((((((J 80



DISTANCE FROM SOURCE (METERS)

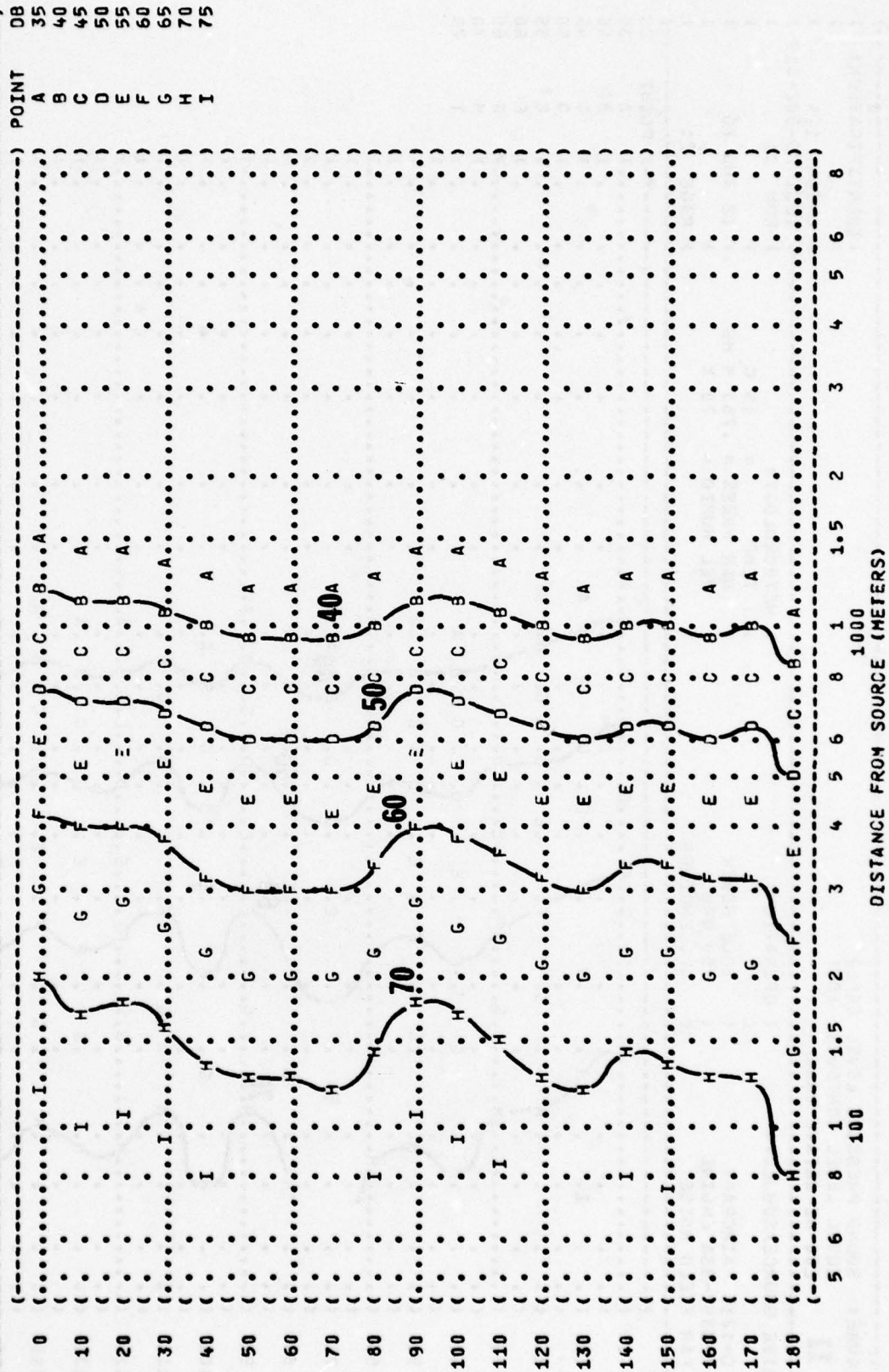
A N G L E I N D E G R E E S

(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (**11** 63 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (C-1216 AIRCRAFT (IDLE POWER
 (R-3350-93A ENGINE (700 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019
 (RUN 01
 (12 AUG 76
 (PAGE 19



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 125 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (C-121G AIRCRAFT (IDLE POWER
 (R-3350-93A ENGINE (700 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY: (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION: (OMEGA 1.4
 (TEST 75-002-019
 (RUN 01
 (12 AUG 76
 (PAGE 20
 (POINT DB
 (A 35
 (B 40
 (C 45
 (D 50
 (E 55
 (F 60
 (G 65
 (H 70
 (I 75

ANGLE IN DEGREES



IDENTIFICATION:

OMEGA 1.4

250 HZ OCTAVE BAND

METEOROLOGY:

0 1240 1300153

C-121G AIRCRAFT
R-3350-93A ENGINE

**IDLE POWER
700 RPM**

FAR FIELD NOISE

ALL ENGINES

TEMP = 15 C

12 AUG 76

12 AUG 76

PAGE 21

PAGE 21

[illegible]

420 LE IN DEUTERUS

1000
DISTANCE FROM SOURCE (METERS)

IDENTIFICATIONS:
OMEGA 1.4

OMEGA 1.4

METEOROLOGY:

01 RUN

760 H

REL HUMID = 70 %

POINT

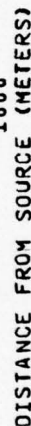


FIGURE 1 SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
2000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT:

C-121G AIRCRAFT
R-1150-93A ENGINE
FAR FIELD NOISE

(OPERATION:

(IDLE POWER
(700 RPM
(ALL ENGINES

(METEOROLOGY:

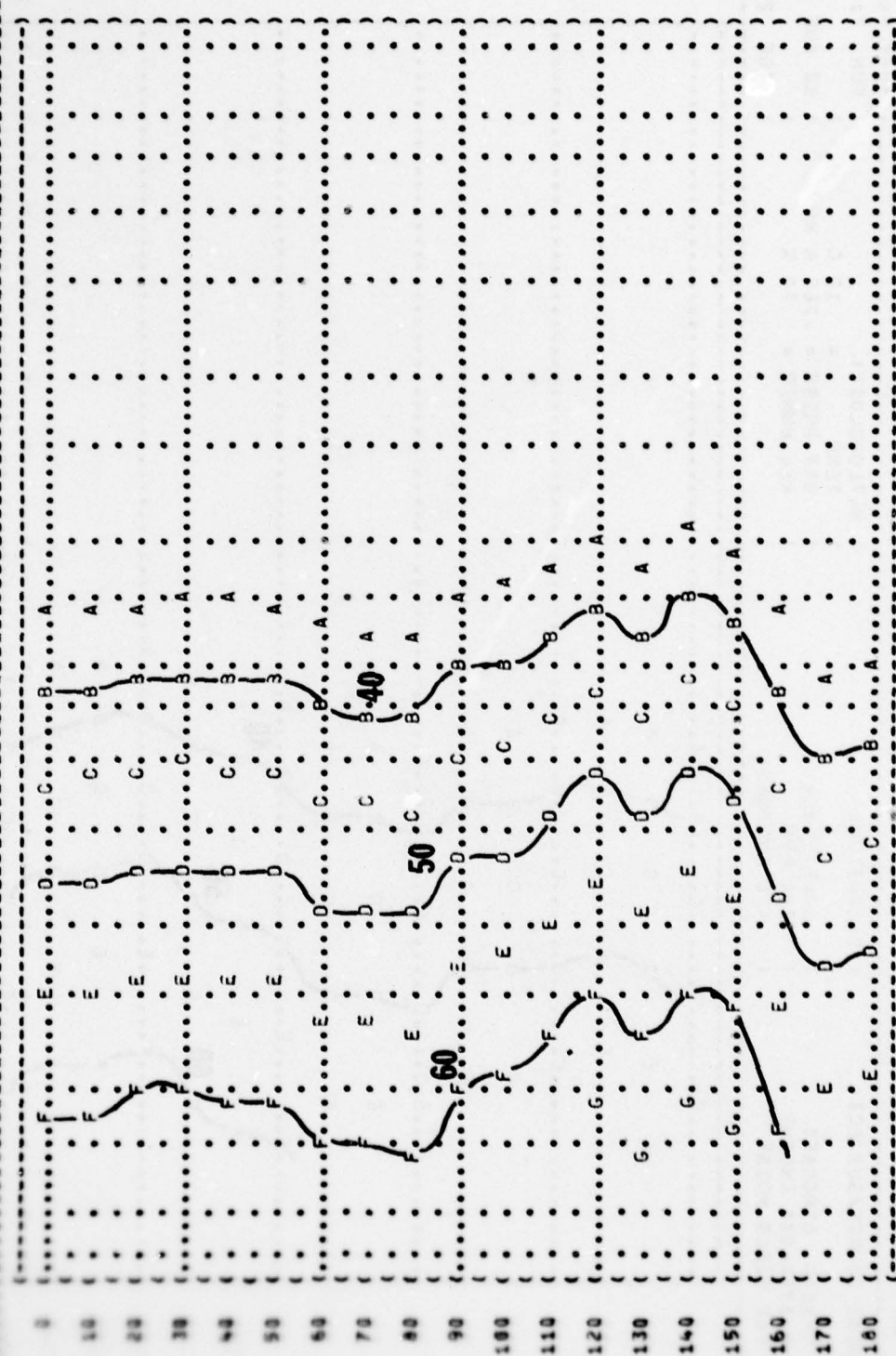
(TEMP = 15 C
(BAR PRESS = .760 M HG
(REL HUMID = 70 %

(IDENTIFICATION:

(OMEGA 1.4
(TEST 75-002-019
(RUN 01

(12 AUG 76
(PAGE 24

(POINT 09
35
40
45
50
55
60
65



DISTANCE FROM SOURCE (METERS)

11

NOISE SOURCE/SUBJECT:
C-121G AIRCRAFT
R-3350-93A ENGINE
FAR FIELD NOISE

```
( ( OPERATION:
( (
( ( IDLE POW
( ( 700 RPM
( ( ALL ENGI
```

) METEOROLOGY: =
) TEMP =
) BAR PRESS =
) REL HUMID =

IDENTIFICATIONS:

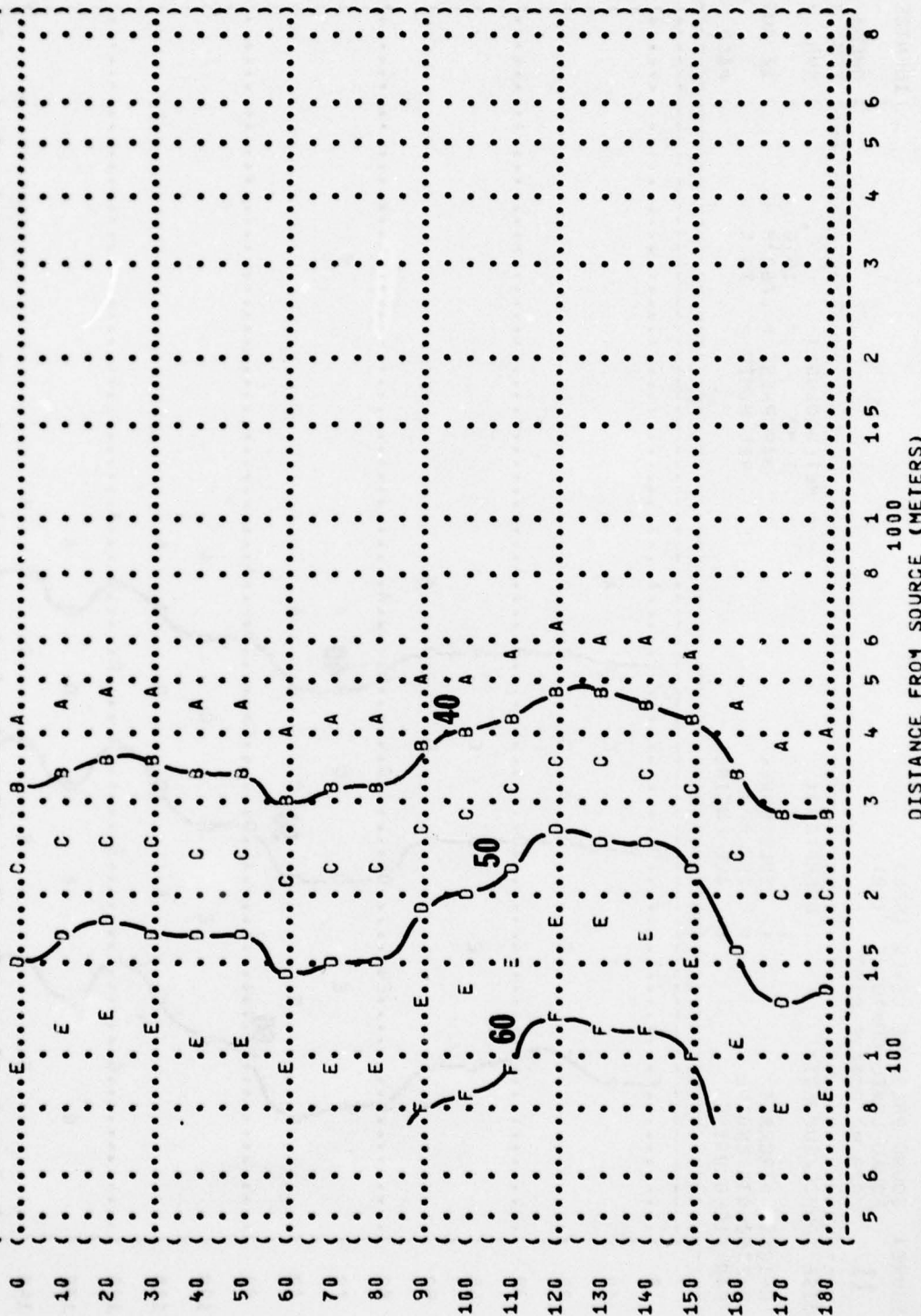
OMEGA 1.4

TEST 75-002-01

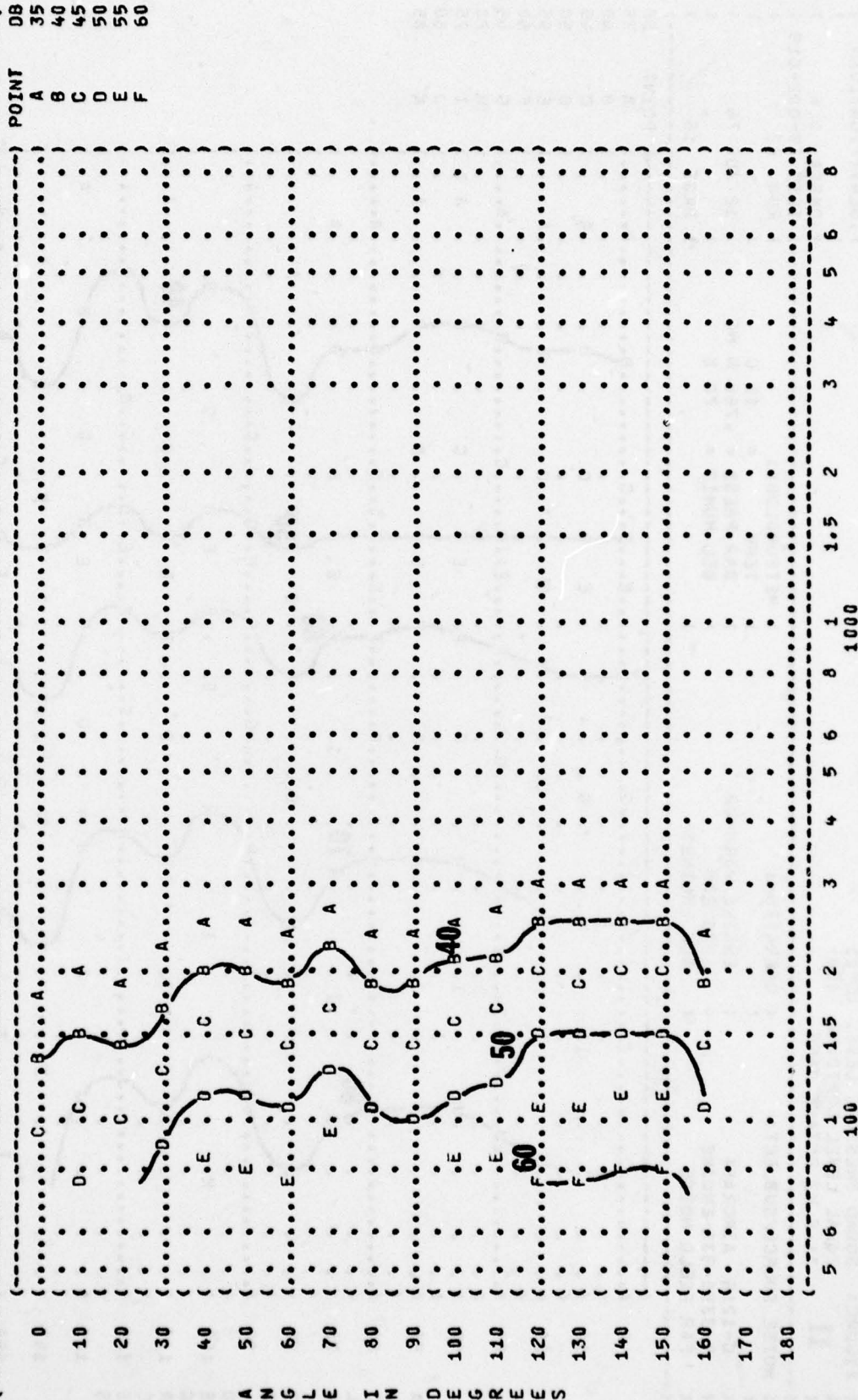
RUN 01

[illegible]

ANGLE IN DEGREES



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 8000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (C-121G AIRCRAFT (IDLE POWER
 (R-3350-93A ENGINE (700 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019
 (RUN 01
 (12 AUG 76
 (PAGE 26
 (POINT DB
 (A 35
 (B 40
 (C 45
 (D 50
 (E 55
 (F 60



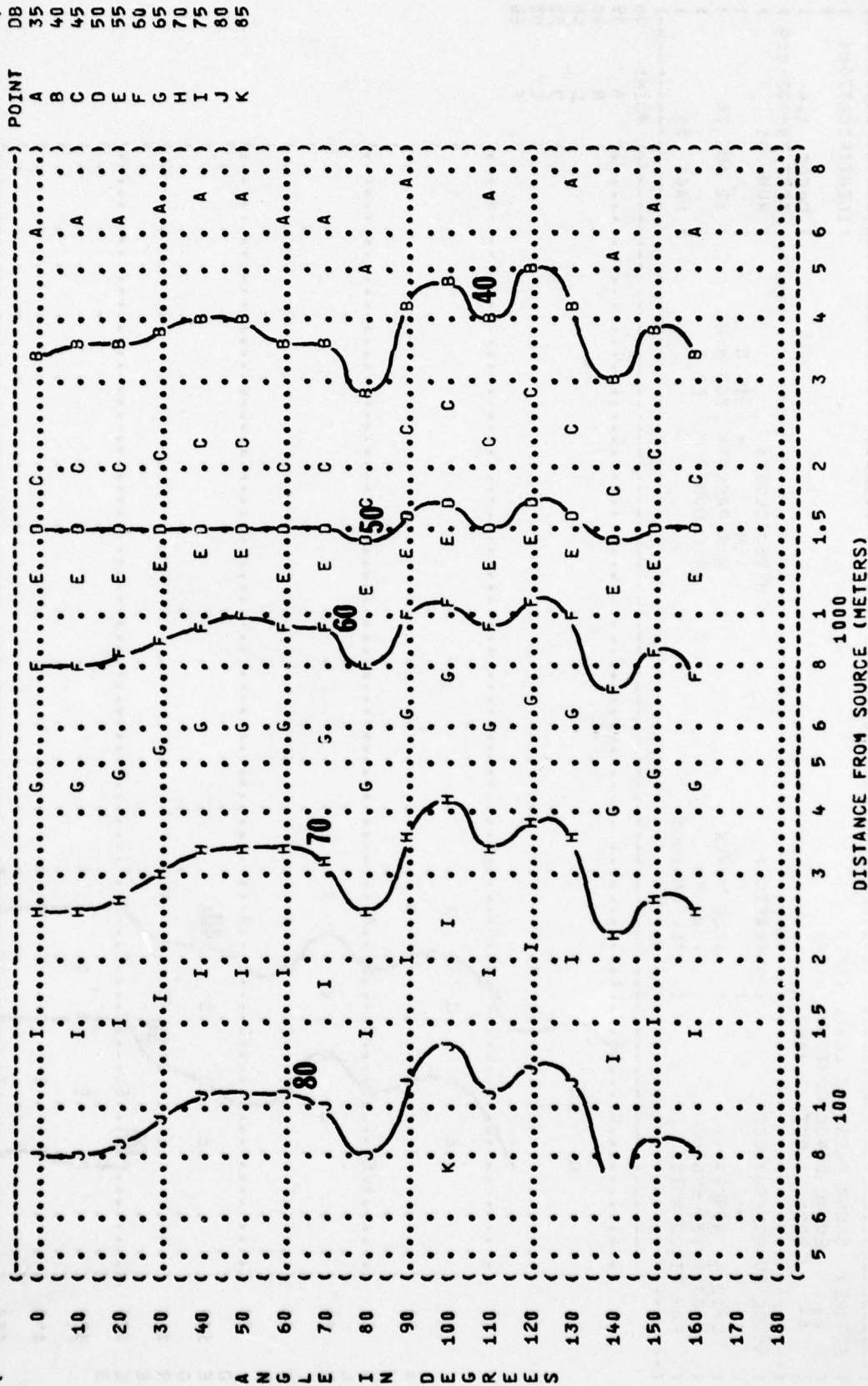
DISTANCE FROM SOURCE (METERS)

A M G L E I N D G R E E S

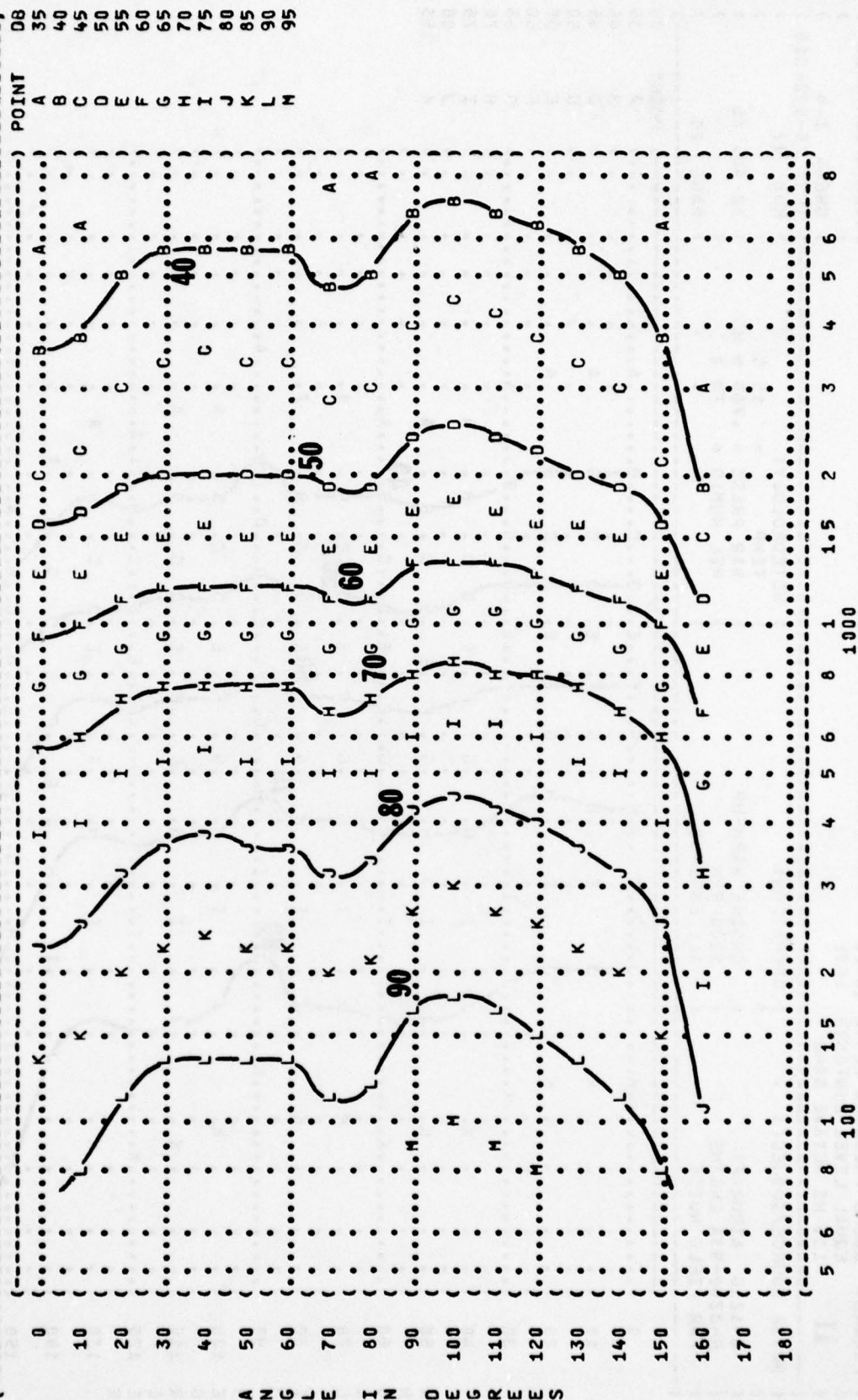
FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
31.5 HZ OCTAVE BAND

11

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-019
RUN 02
METEOROLOGY:
TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %
OPERATION:
ENGINE WARM-UP
1200 RPM
ALL ENGINES
NOISE SOURCE/SUBJECT:
C-121G AIRCRAFT
R-3350-93A ENGINE
FAR FIELD NOISE

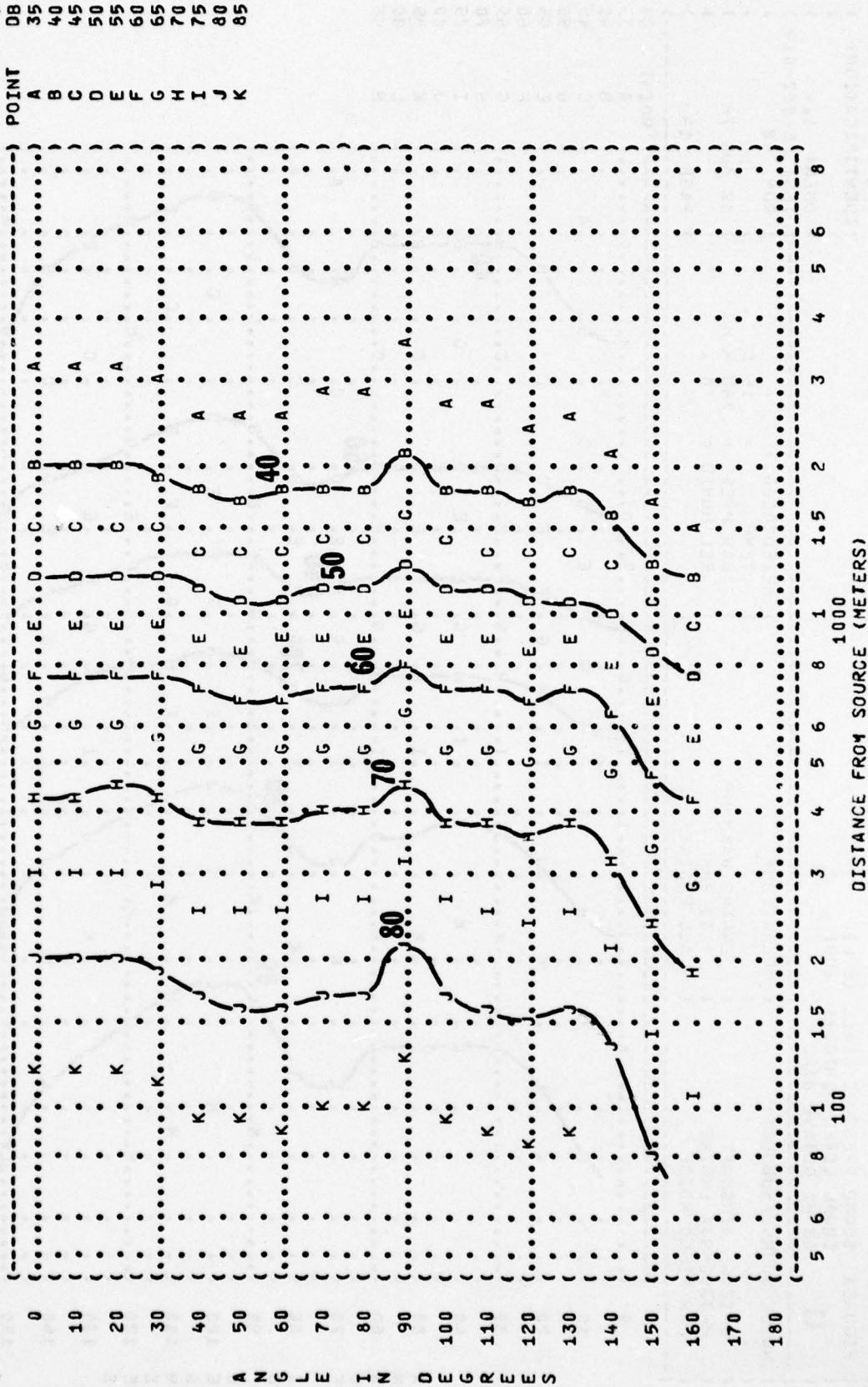


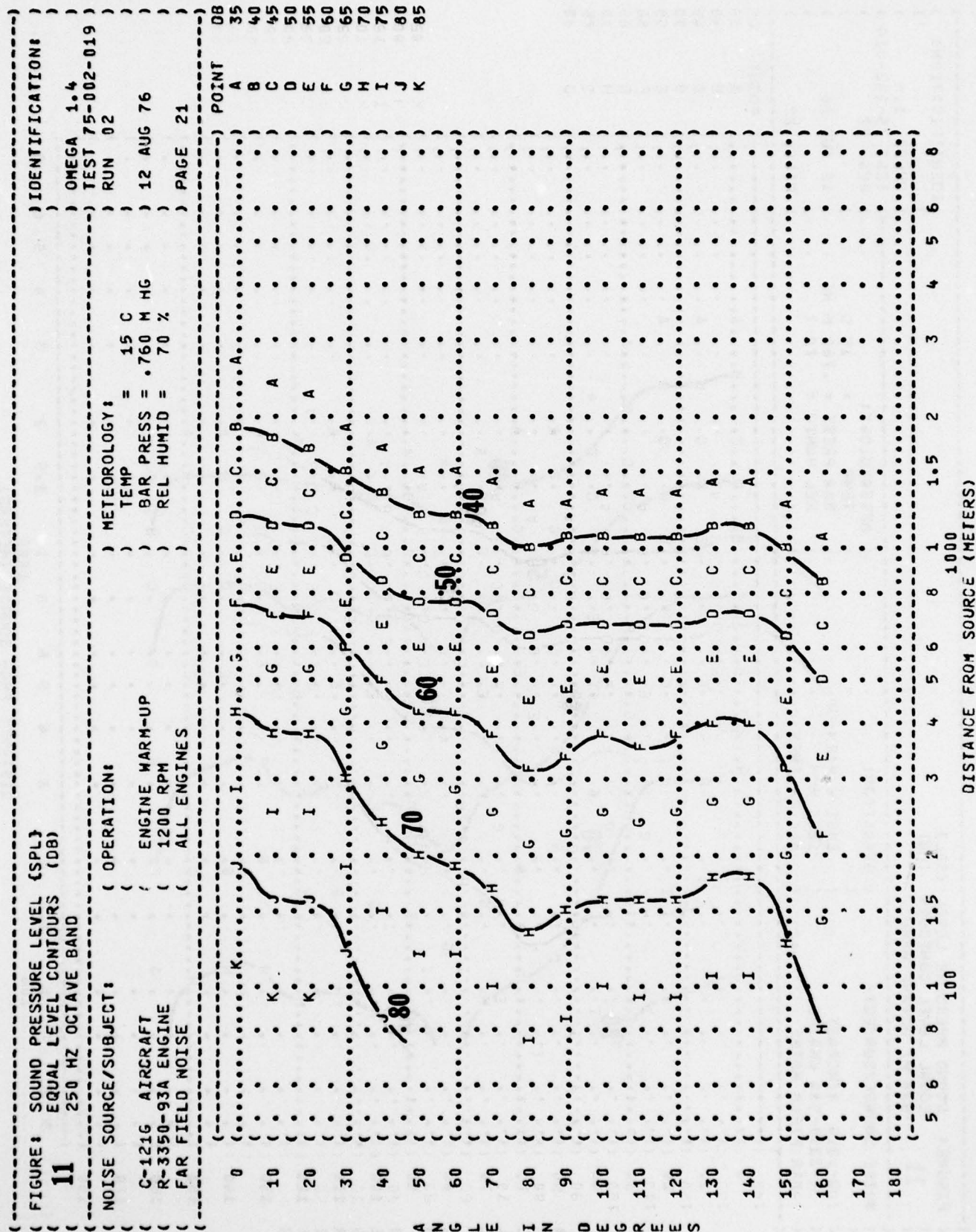
(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 63 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
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 (R-3350-93A ENGINE (1200 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019
 (RUN 02
 (12 AUG 76
 (PAGE 19



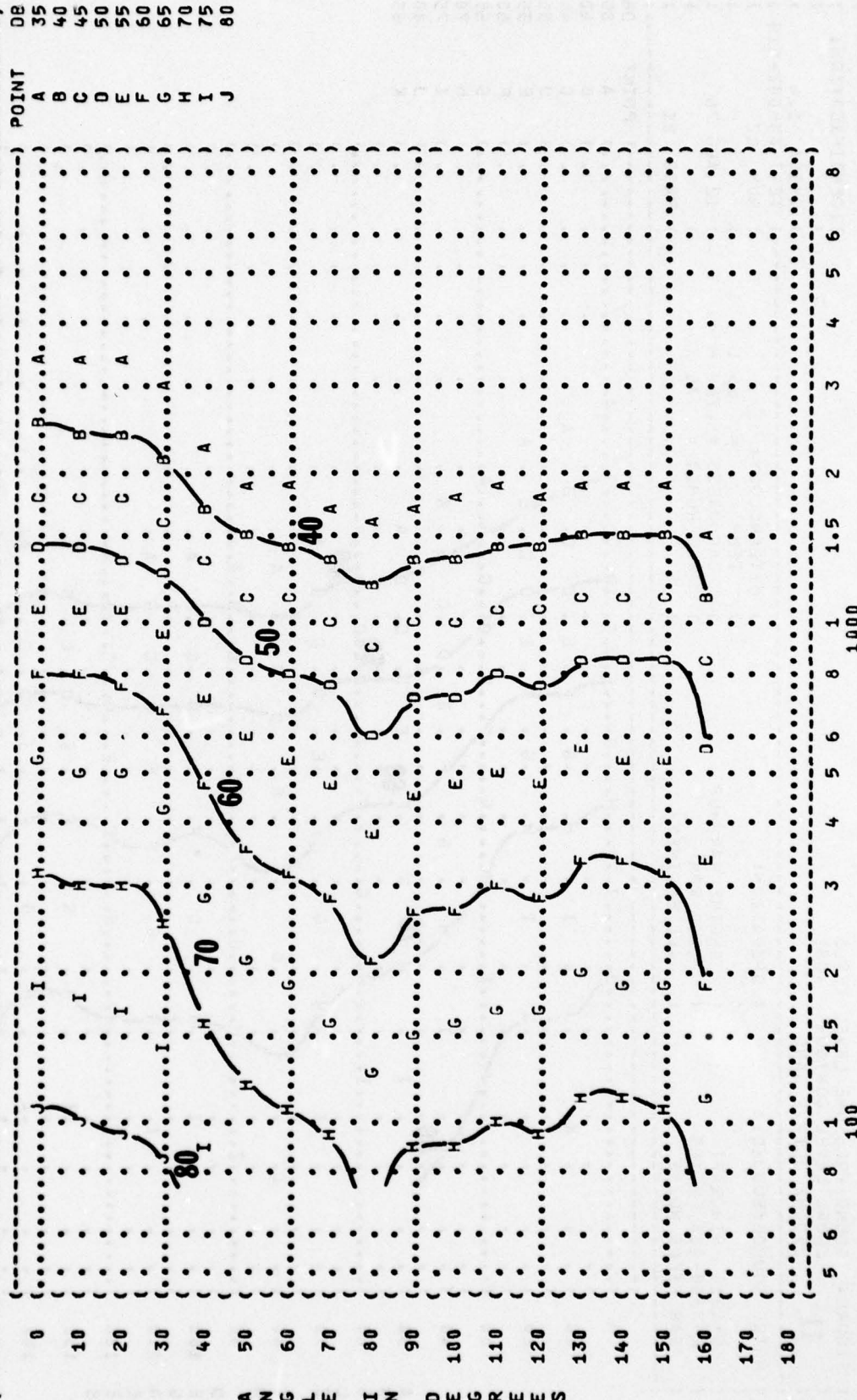
A N G L E I N D E G R E E S

(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 125 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (C-121G AIRCRAFT (ENGINE WARM-UP
 (R-3350-93A ENGINE (1200 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019
 (RUN 02
 (12 AUG 76
 (PAGE 20





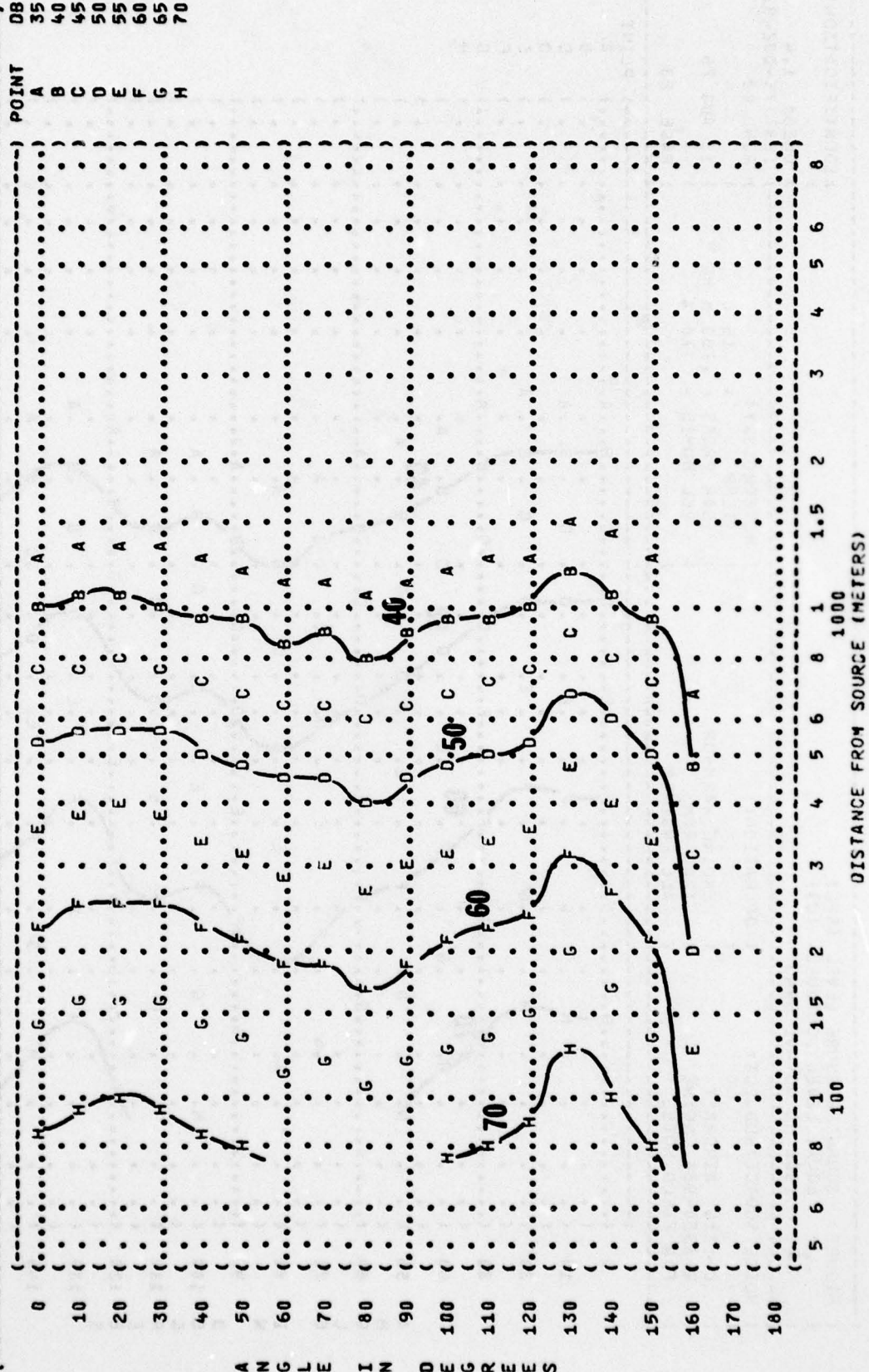
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 (EQUAL LEVEL CONTOURS (DB)
 (11 500 HZ OCTAVE BAND
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 ((ENGINE WARM-UP
 ((1200 RPM
 ((ALL ENGINES
 (C-121G AIRCRAFT
 (R-3350-93A ENGINE
 (FAR FIELD NOISE
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019
 (RUN 02
 (12 AUG 76
 (PAGE 22

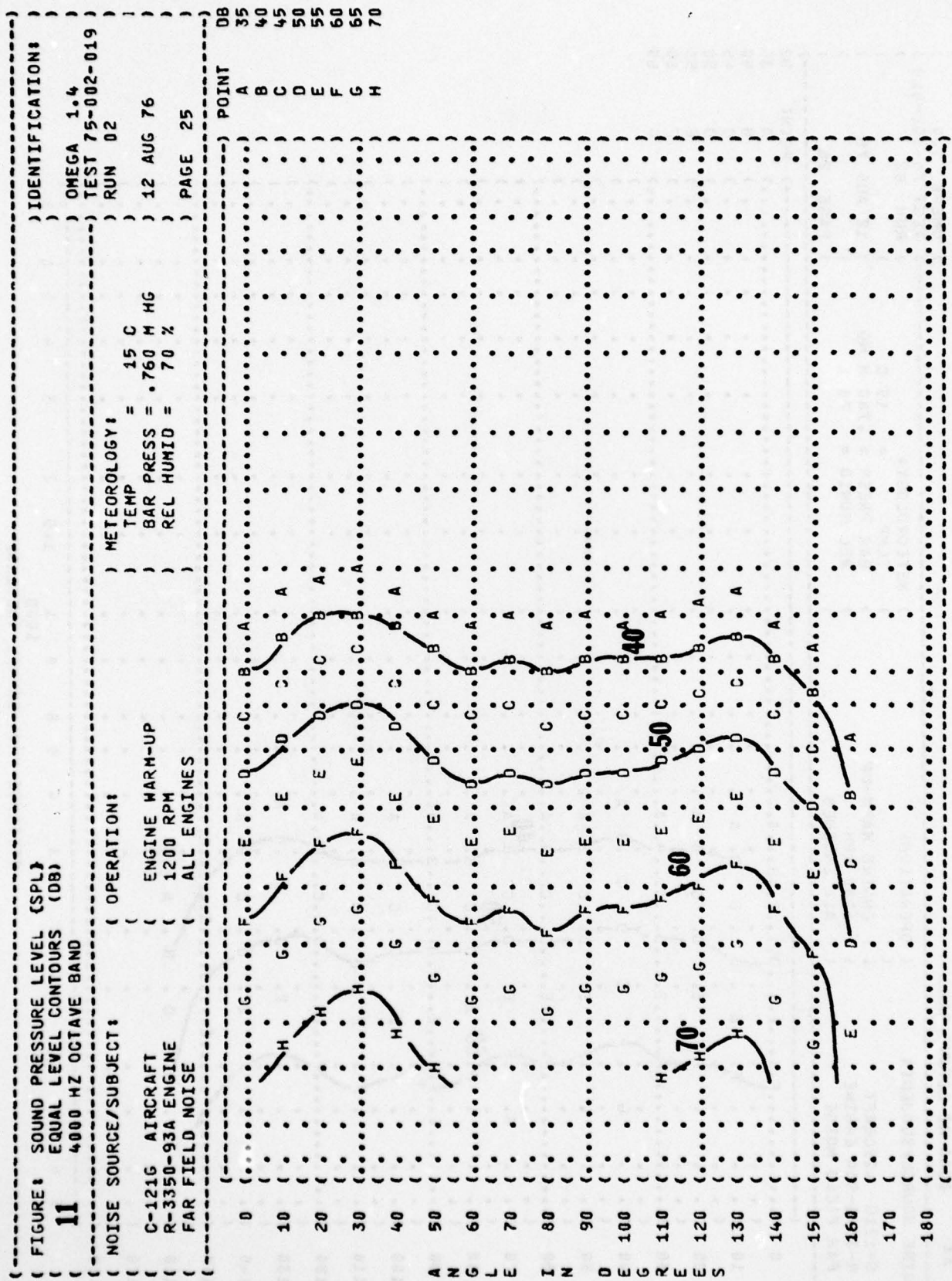


A N G L E I N D E G R E E S

DISTANCE FROM SOURCE (METERS)

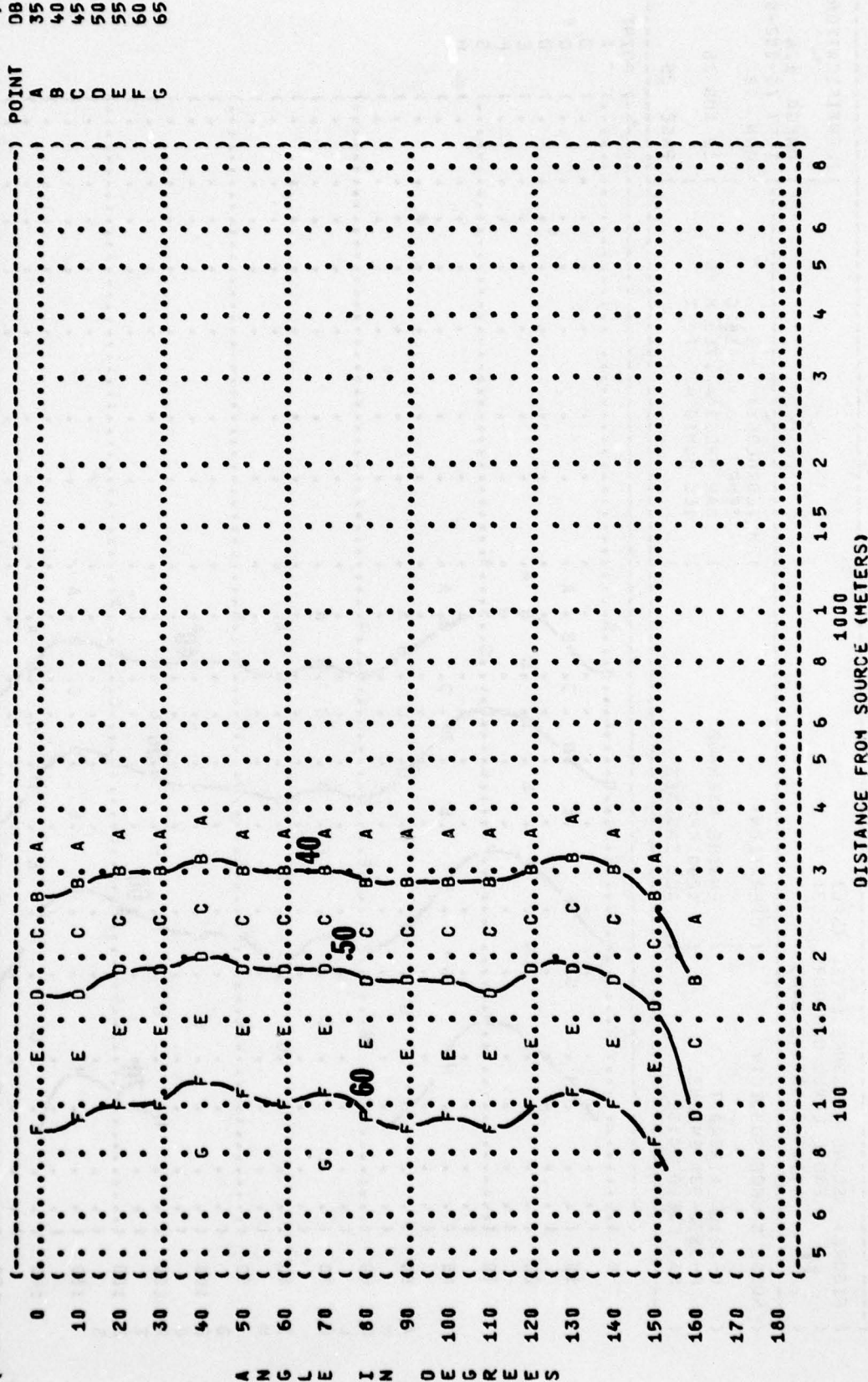
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 (EQUAL LEVEL CONTOURS (DB)
 (11 2000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
 ((OPERATION:
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 ((1200 RPM
 ((ALL ENGINES
 (C-121G AIRCRAFT
 (R-3350-93A ENGINE
 (FAR FIELD NOISE
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019
 (RUN 02
 (12 AUG 76
 (PAGE 24
 (DB



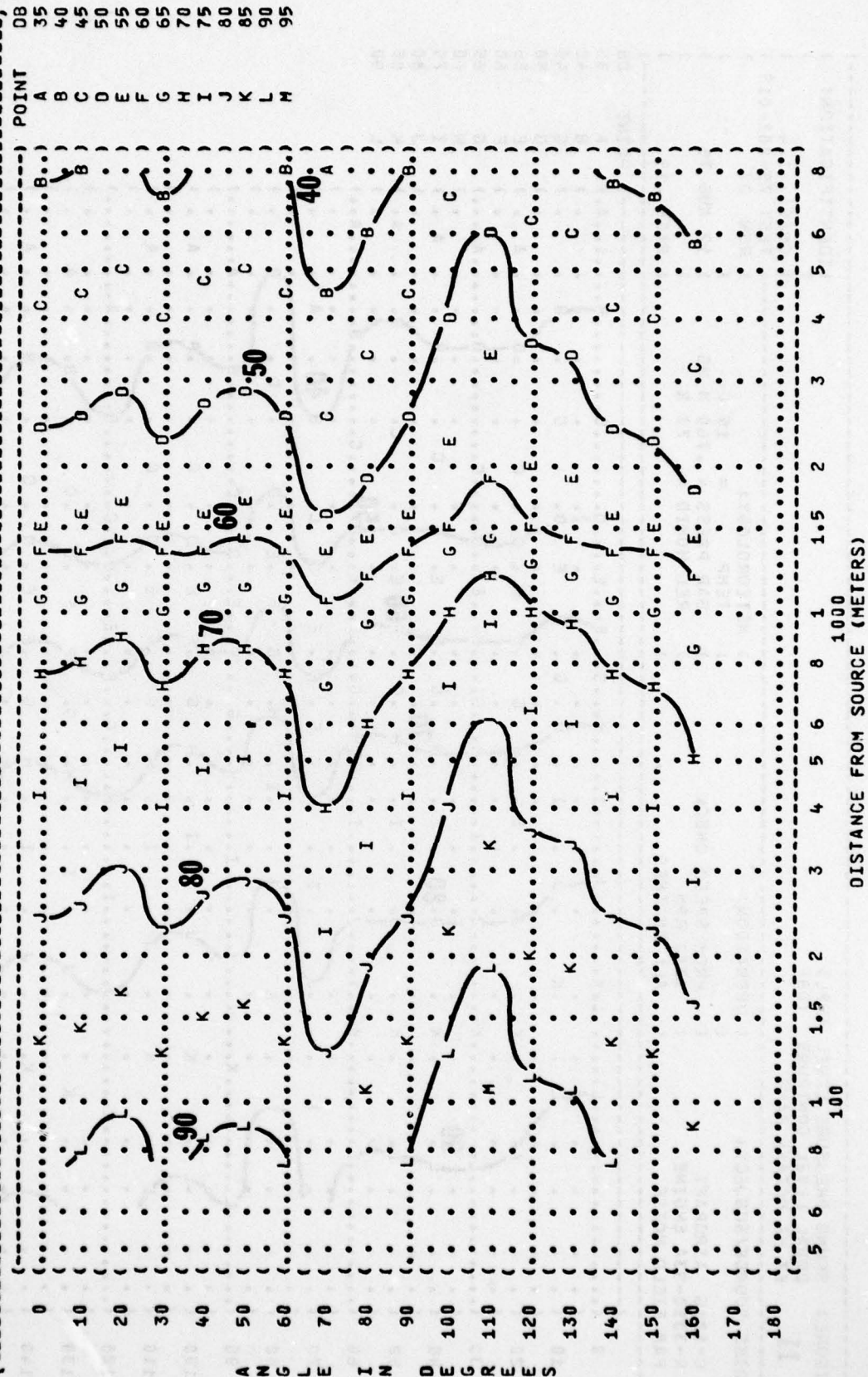


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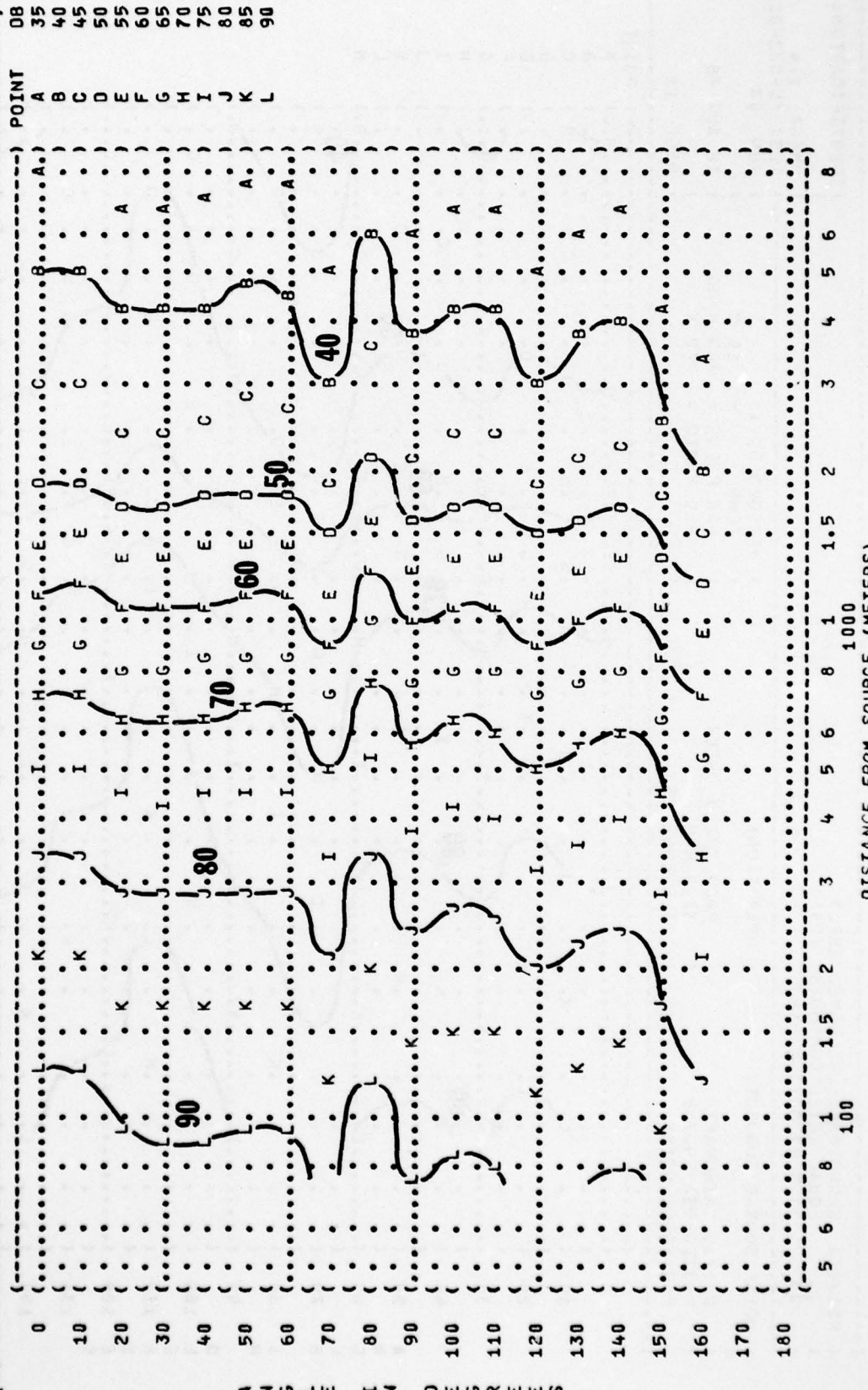
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 (11 EQUAL LEVEL CONTOURS (DB))
 (8000 HZ OCTAVE BAND)
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 (C-121G AIRCRAFT)
 (R-3350-93A ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (ENGINE WARM-UP)
 (1200 RPM)
 (ALL ENGINES)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (12 AUG 76)
 (PAGE 26)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-019)
 (RUN 02)



(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (11 EQUAL LEVEL CONTOURS (03))
 (31.5 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (C-121G AIRCRAFT)
 (R-3350-93A ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (PROP SPEED CHECK)
 (1700 RPH)
 (ALL ENGINES)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-019)
 (RUN 03)
 (12 AUG 76)
 (PAGE 18)



(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (EQUAL LEVEL CONTOURS (DB))
 (11 63 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (C-121G AIRCRAFT)
 (R-3350-93A ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (PROP SPEED CHECK)
 (1700 RPM)
 (ALL ENGINES)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-019)
 (RUN 03)
 (12 AUG 76)
 (PAGE 19)



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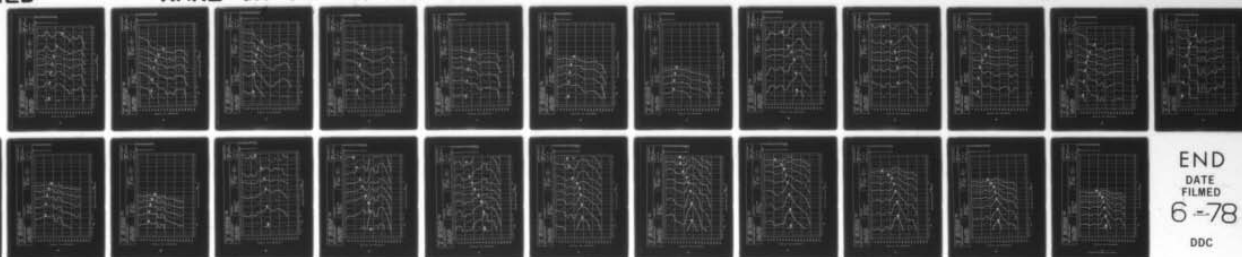
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USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK. VOLUME 100. C-121G A--ETC(U)
MAY 77 R G POWELL

UNCLASSIFIED

AMRL-TR-75-50-VOL-100

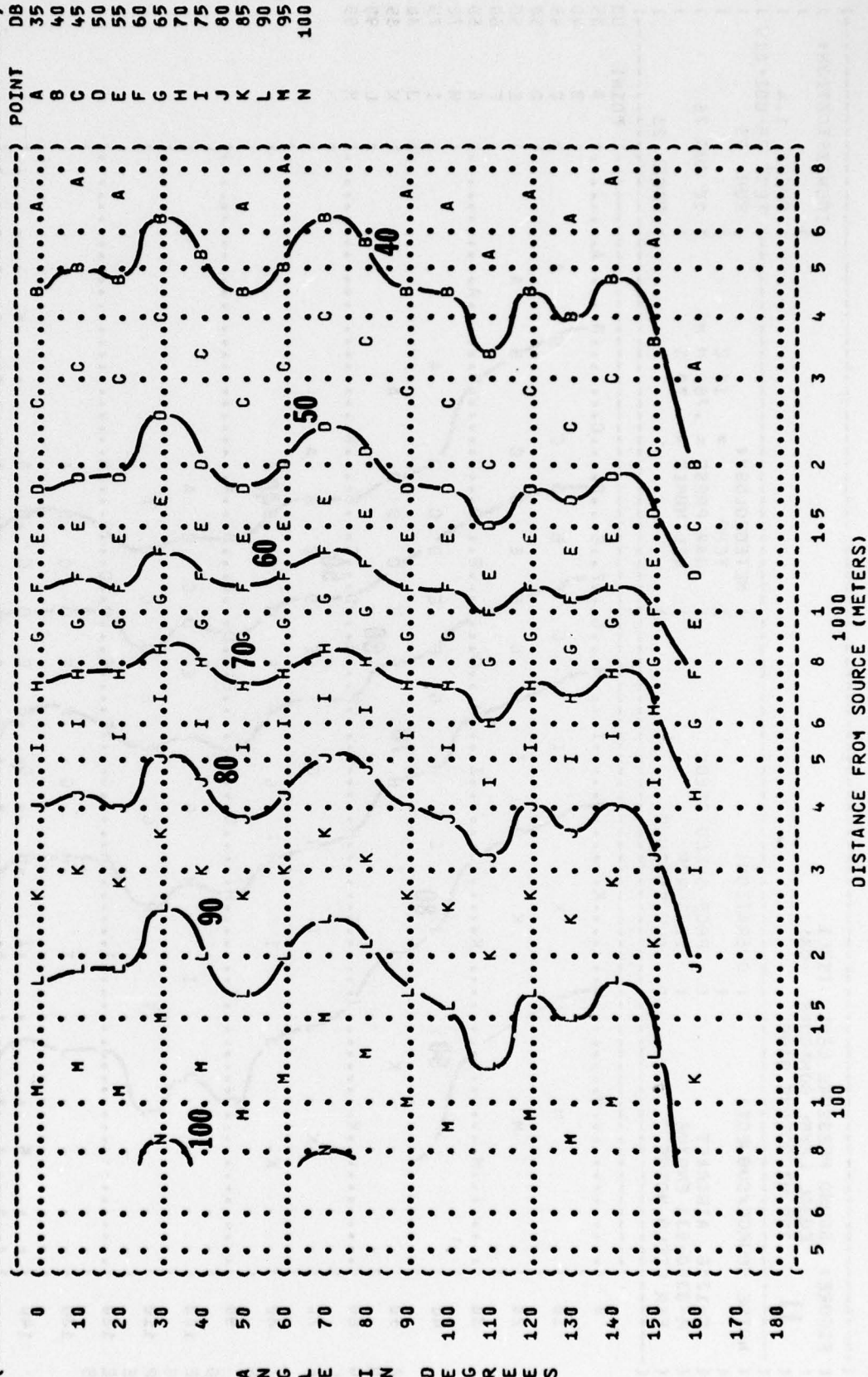
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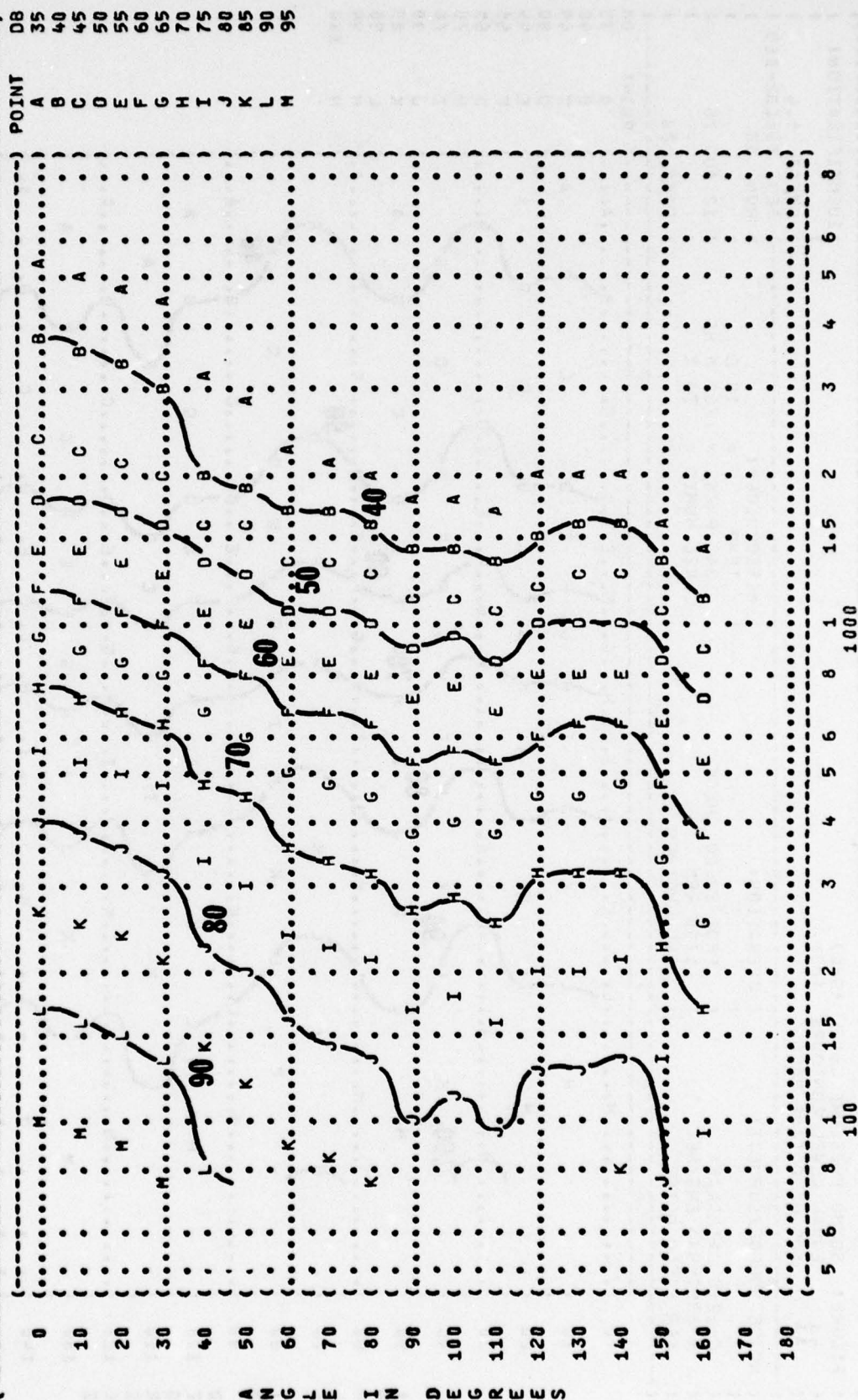


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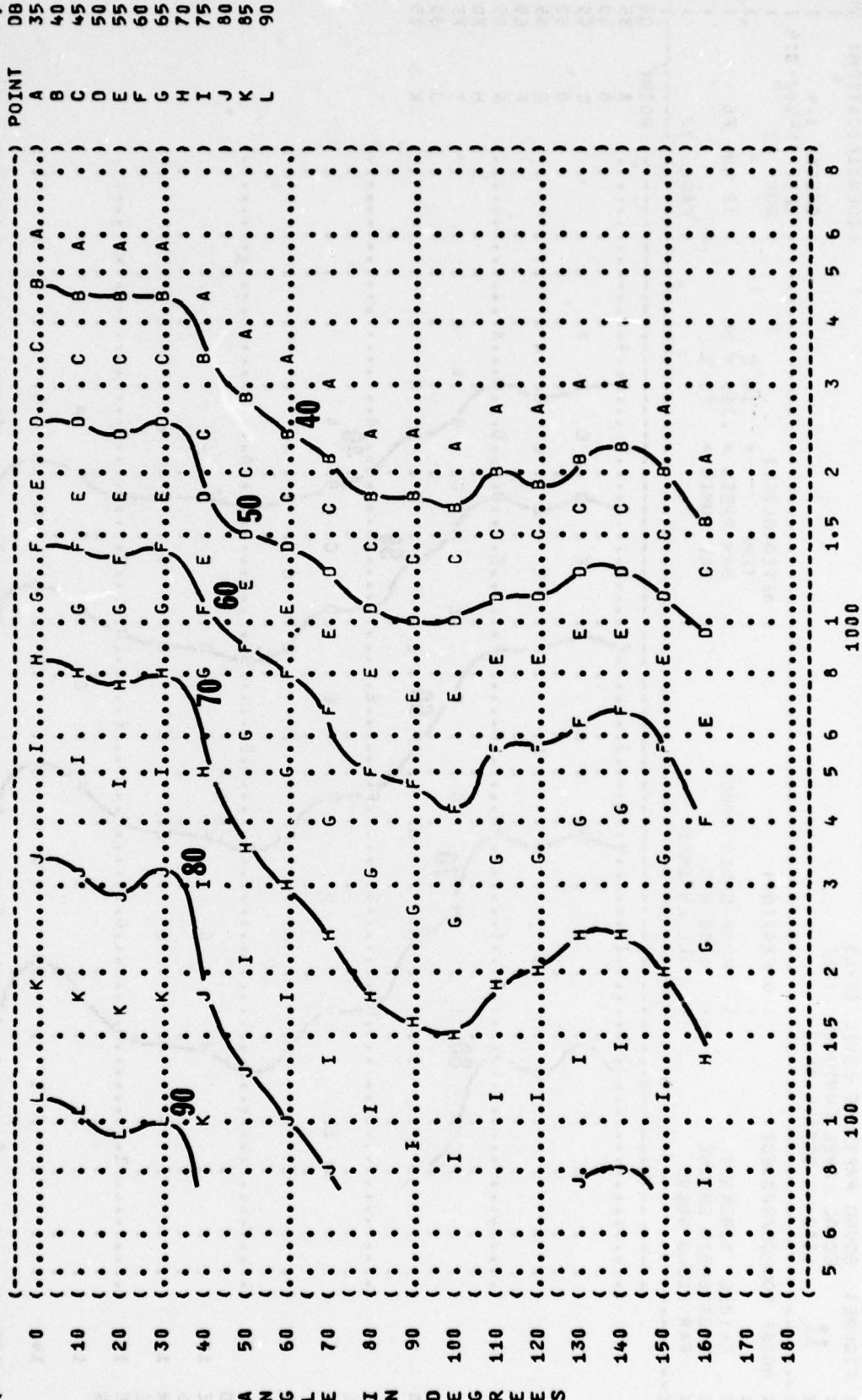
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 (125 HZ OCTAVE BAND
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 (R-3350-93A ENGINE
 (FAR FIELD NOISE
 (OPERATION:
 (PROP SPEED CHECK
 (1700 RPM
 (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019
 (RUN 03
 (12 AUG 76
 (PAGE 20



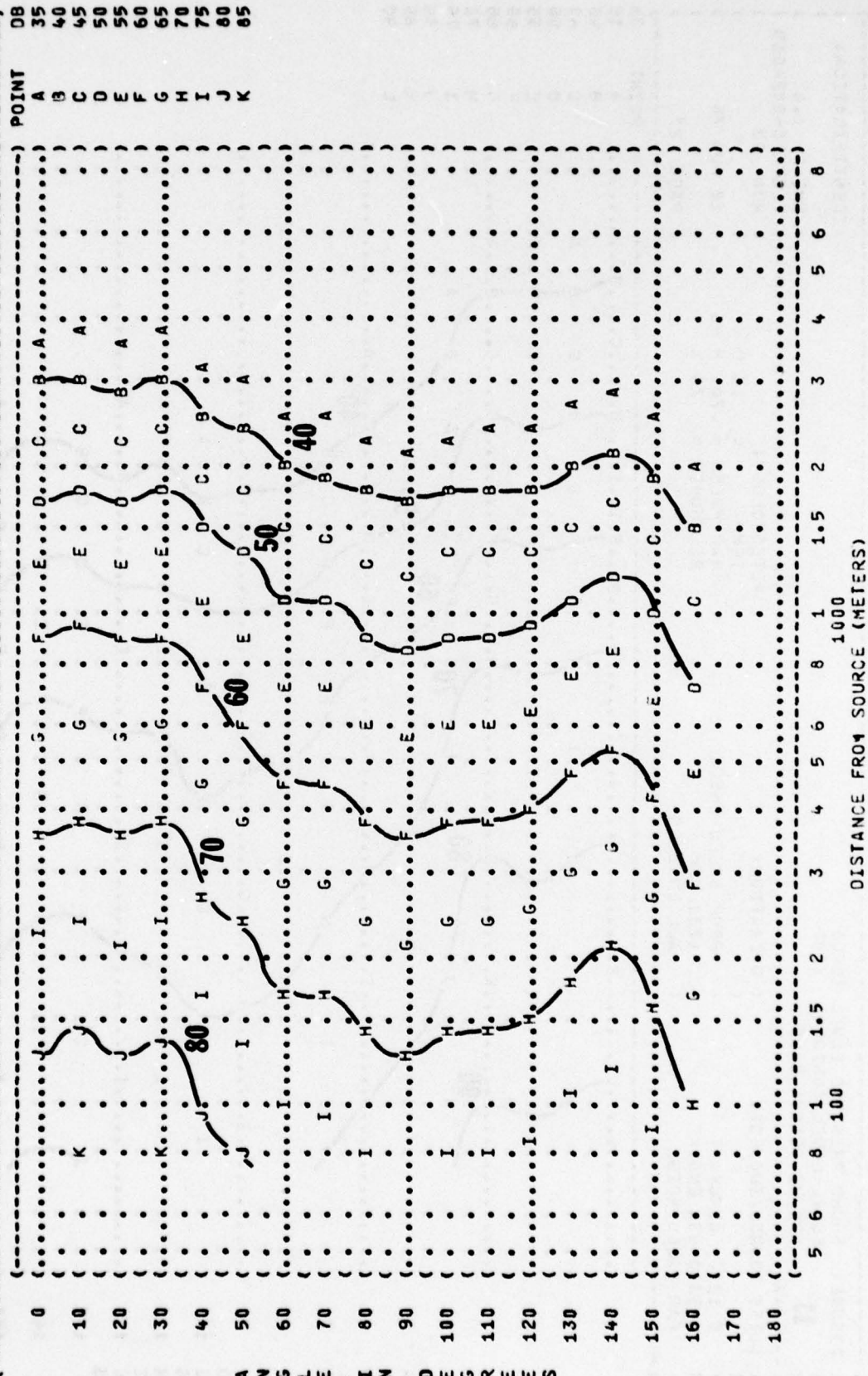
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 (EQUAL LEVEL CONTOURS (DB))
 (11 250 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (C-121G AIRCRAFT)
 (R-3350-93A ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (PROP SPEED CHECK)
 (1700 RPM)
 (ALL ENGINES)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-019)
 (RUN 03)
 (12 AUG 76)
 (PAGE 21)



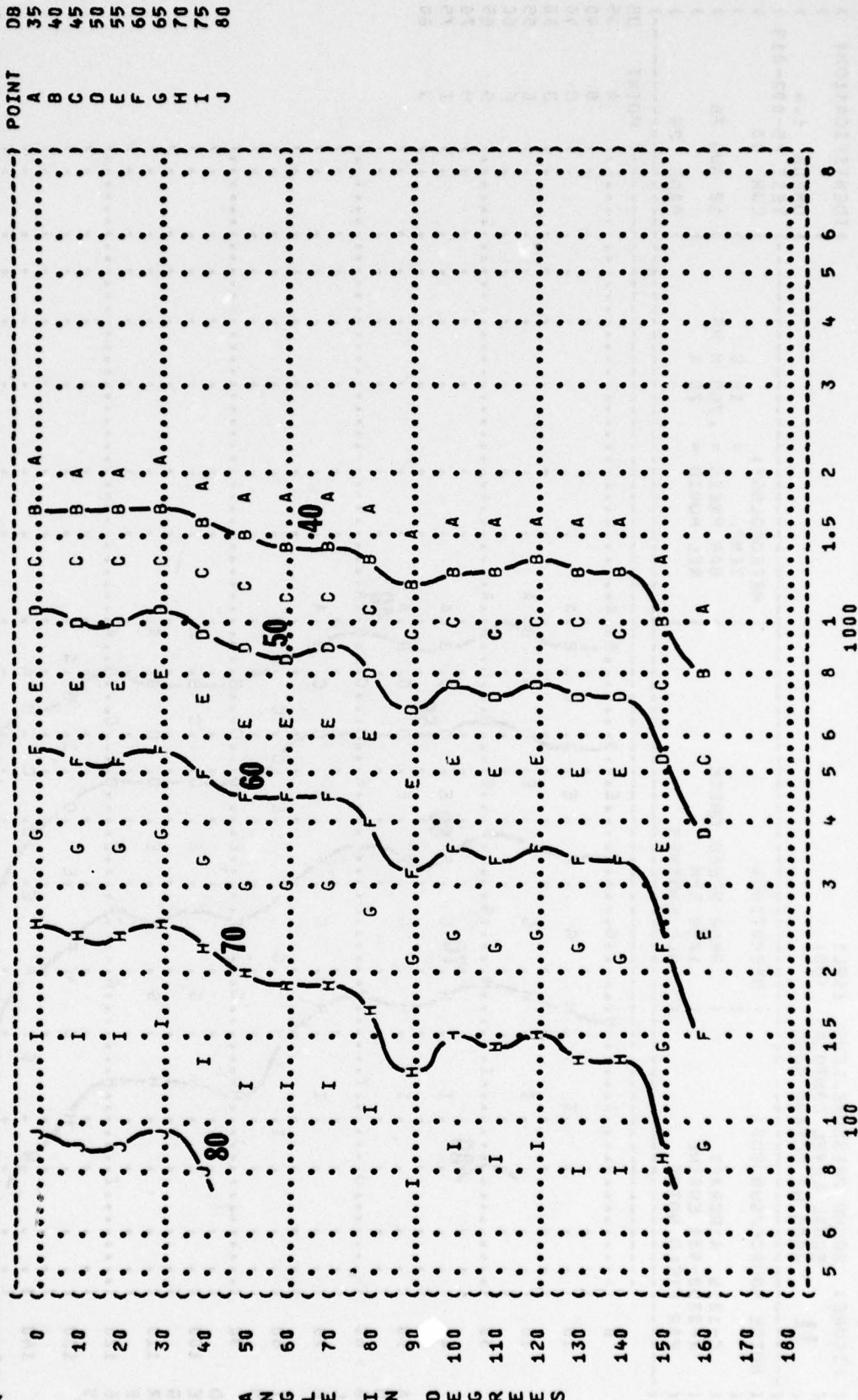
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 (11 EQUAL LEVEL CONTOURS (DB))
 (500 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (C-121G AIRCRAFT)
 (R-3350-93A ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (PROP SPEED CHECK)
 (1700 RPM)
 (ALL ENGINES)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-019)
 (RUN 03)
 (12 AUG 76)
 (PAGE 22)



(FIGURE: SOUND PRESSURE LEVEL {SPL}
 (11 EQUAL LEVEL CONTOURS (DB)
 (1000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (C-121G AIRCRAFT (PROP SPEED CHECK
 (R-3350-93A ENGINE (1700 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019
 (RUN 03
 (12 AUG 76
 (PAGE 23



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 2000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (C-121G AIRCRAFT (PROP SPEED CHECK
 (R-3350-93A ENGINE (1700 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019
 (RUN 03
 (12 AUG 76
 (PAGE 24



DISTANCE FROM SOURCE (METERS)

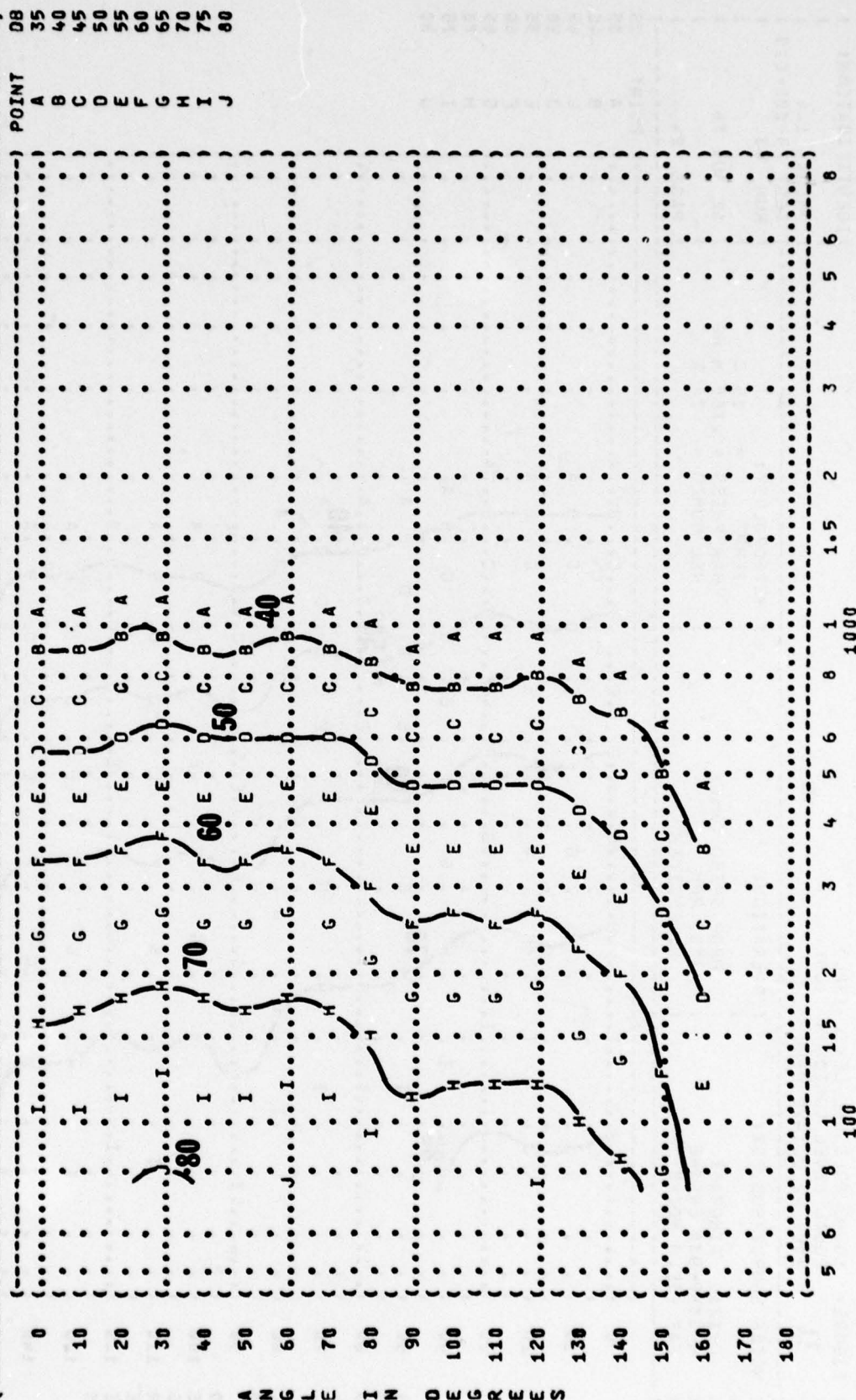
FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 4000 HZ OCTAVE BAND

FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
4000 HZ OCTAVE BAND

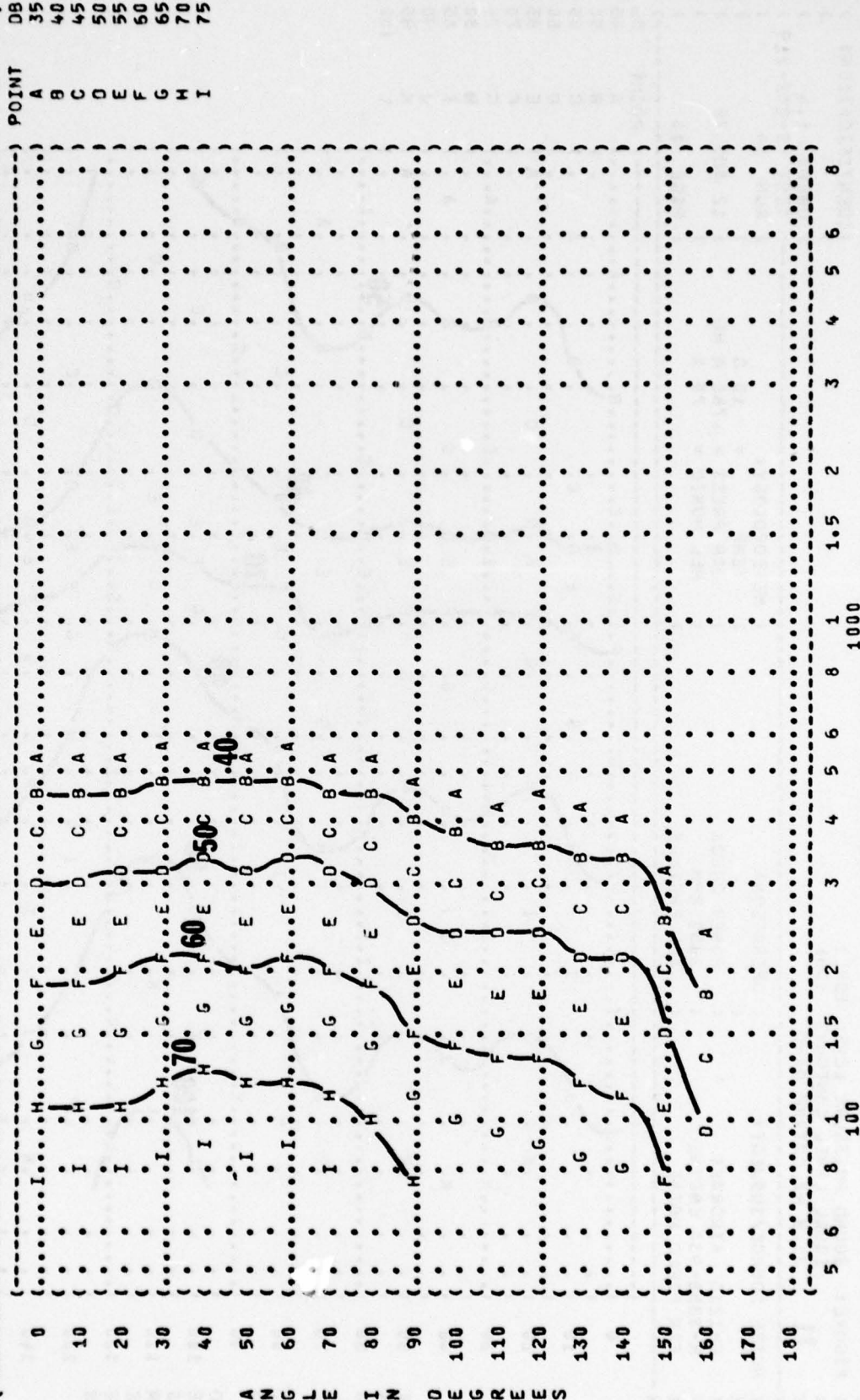
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NOISE SOURCE/SUBJECT: (OPERATION:) METEOROLOGY:) IDENTIFICATIONS:)

C-121G AIRCRAFT (PROP SPEED CHECK) TEMP = 15 C) OMEGA 1.4)
R-3350-93A ENGINE (1700 RPM) BAR PRESS = .760 M HG) TEST 75-002-019)
FAR FIELD NOISE (ALL ENGINES) REL HUMID = 70 %) RUN 03)
PAGE 25)

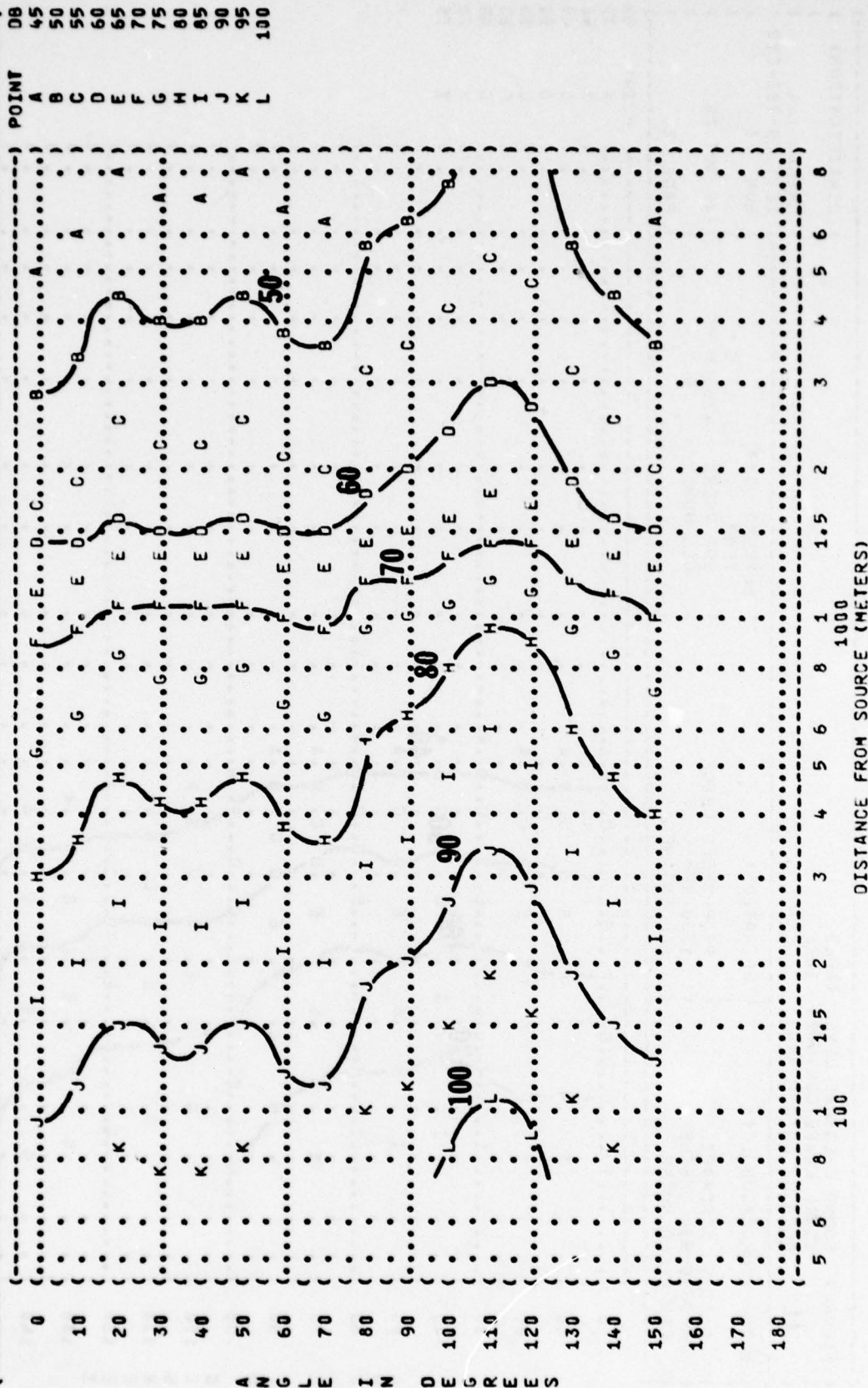


(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 8000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION: (METEOROLOGY: (POINT DB
 (C-121G AIRCRAFT (PROP SPEED CHECK (TEMP = 15 C (A 35
 (R-3350-93A ENGINE (1700 RPM (BAR PRESS = .760 M HG (B 40
 (FAR FIELD NOISE (ALL ENGINES (REL HUMID = 70 % (C 45
 ((((((((D 50
 (((((((((E 55
 (((((((((F 60
 (((((((((G 65
 (((((((((H 70
 (((((((((I 75
 (((((((((PAGE 26
 (((((((((TEST 75-002-019
 (((((((((RUN 03
 (((((((((OMEGA 1.4
 (((((((((IDENTIFICATION: (

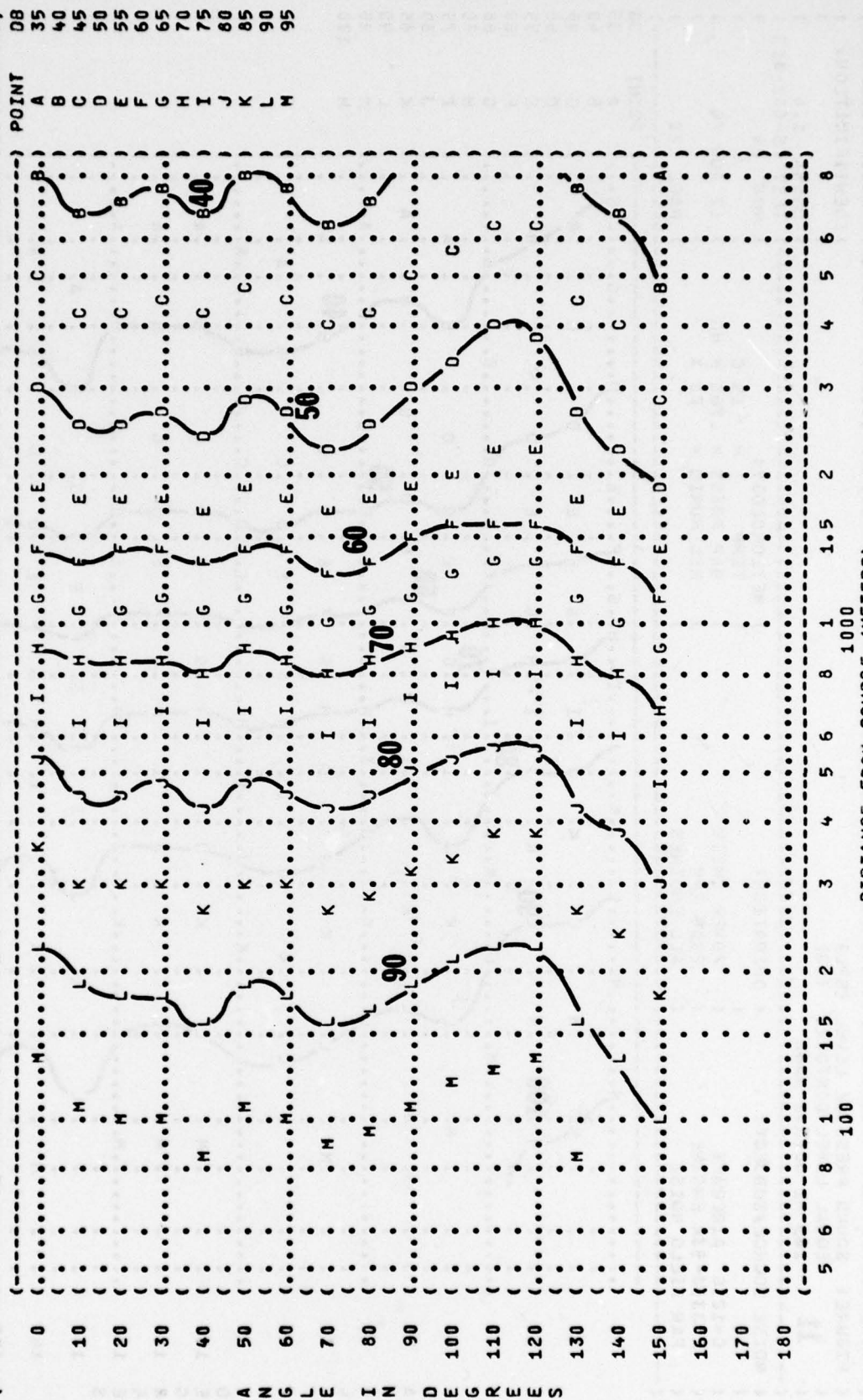


DISTANCE FROM SOURCE (METERS)

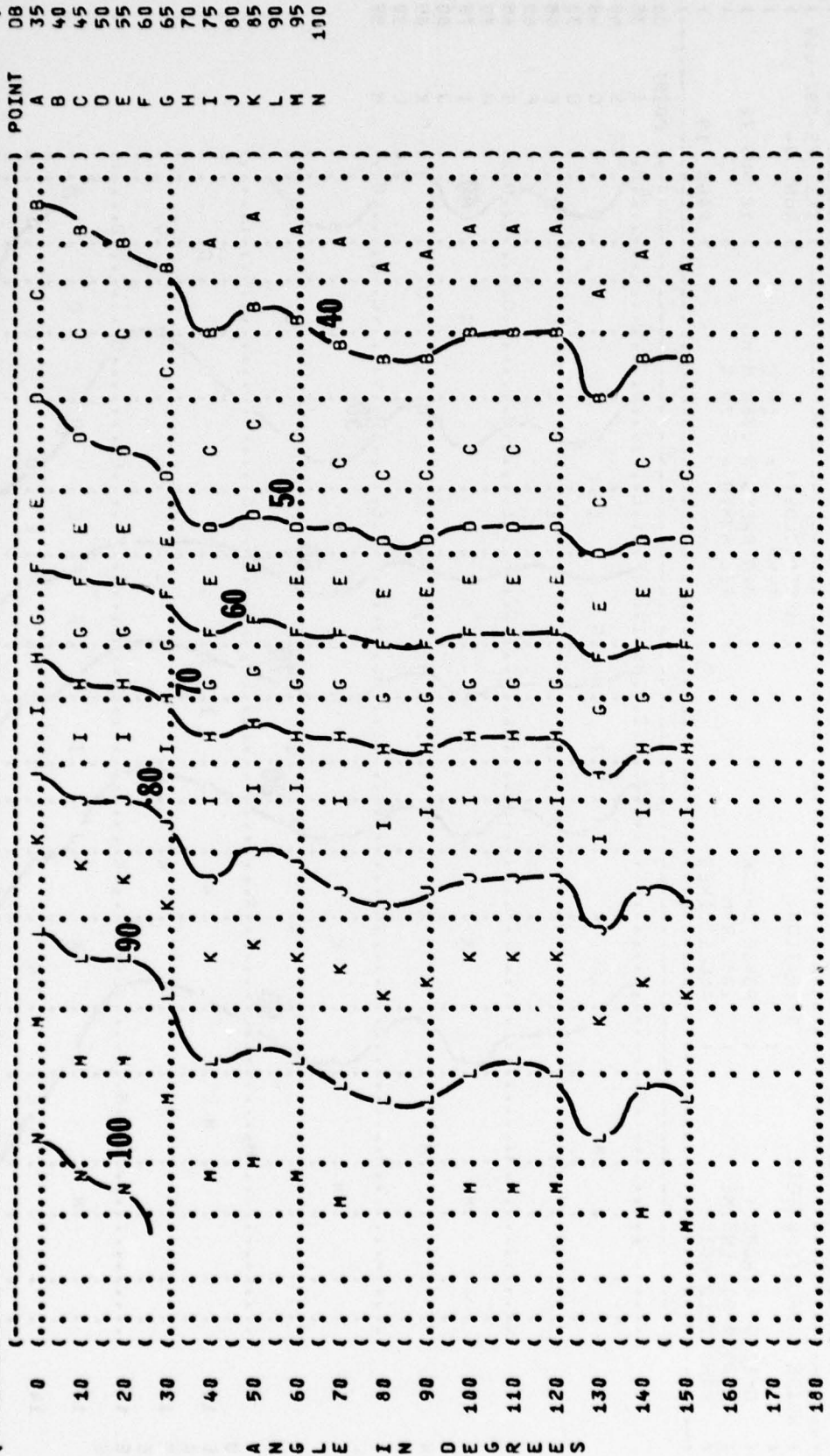
(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 31.5 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (C-121G AIRCRAFT (POWER CHECK
 (R-3350-93A ENGINE (2050 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (12 AUG 76
 (PAGE 18
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019
 (RUN 04



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (63 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (C-121G AIRCRAFT (POWER CHECK
 (R-3350-93A ENGINE (2050 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019
 (RUN 04
 (12 AUG 76
 (PAGE 19



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 125 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (C-121G AIRCRAFT (POWER CHECK
 (R-3350-93A ENGINE (2050 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (NOISE SOURCE/SUBJECT: (METEOROLOGY:
 (TEMP = 15 C
 (9AR PRESS = .760 M HG
 (REL HUMID = 70 %
 (12 AUG 76
 (RUN 04
 (PAGE 20
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019

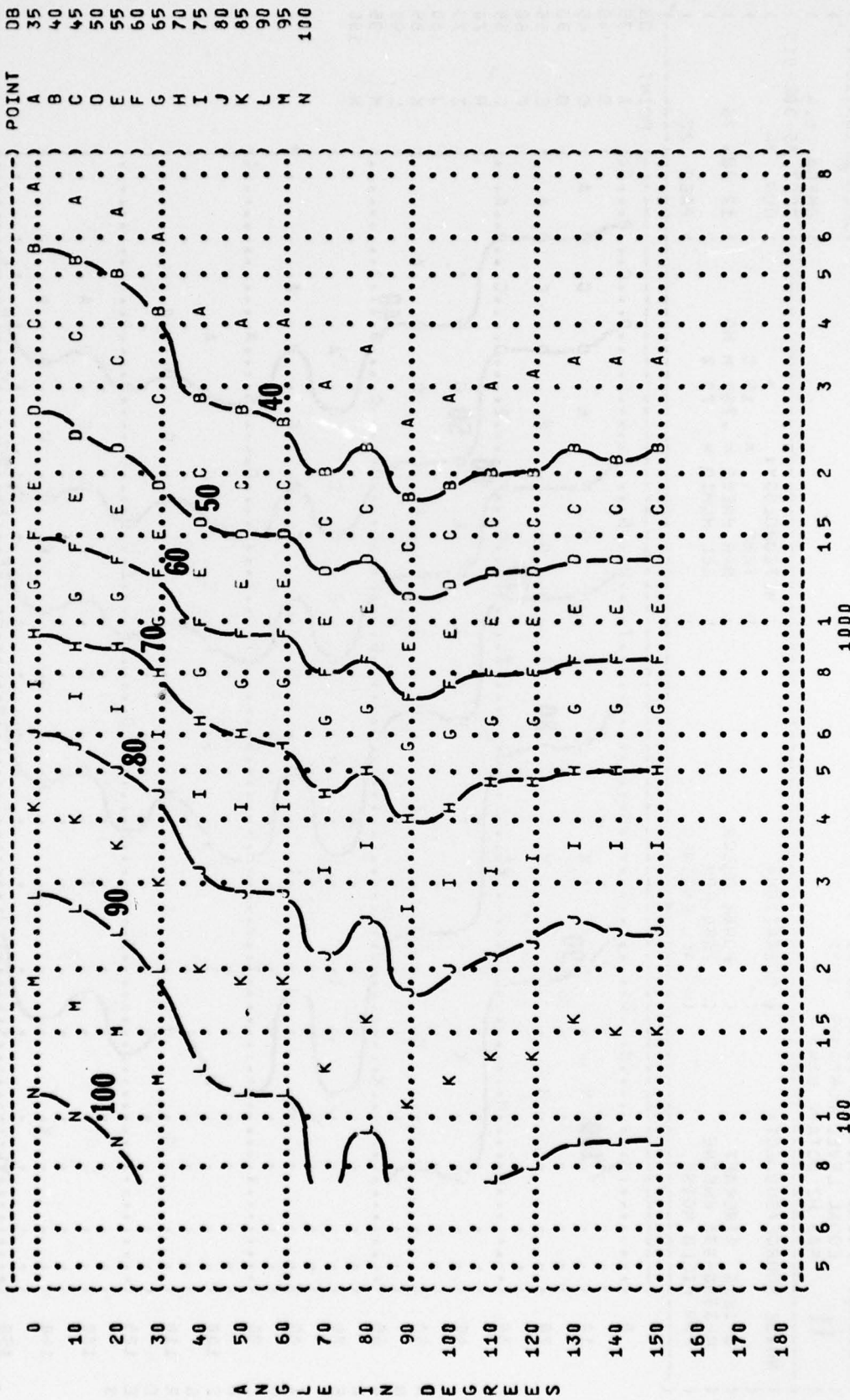


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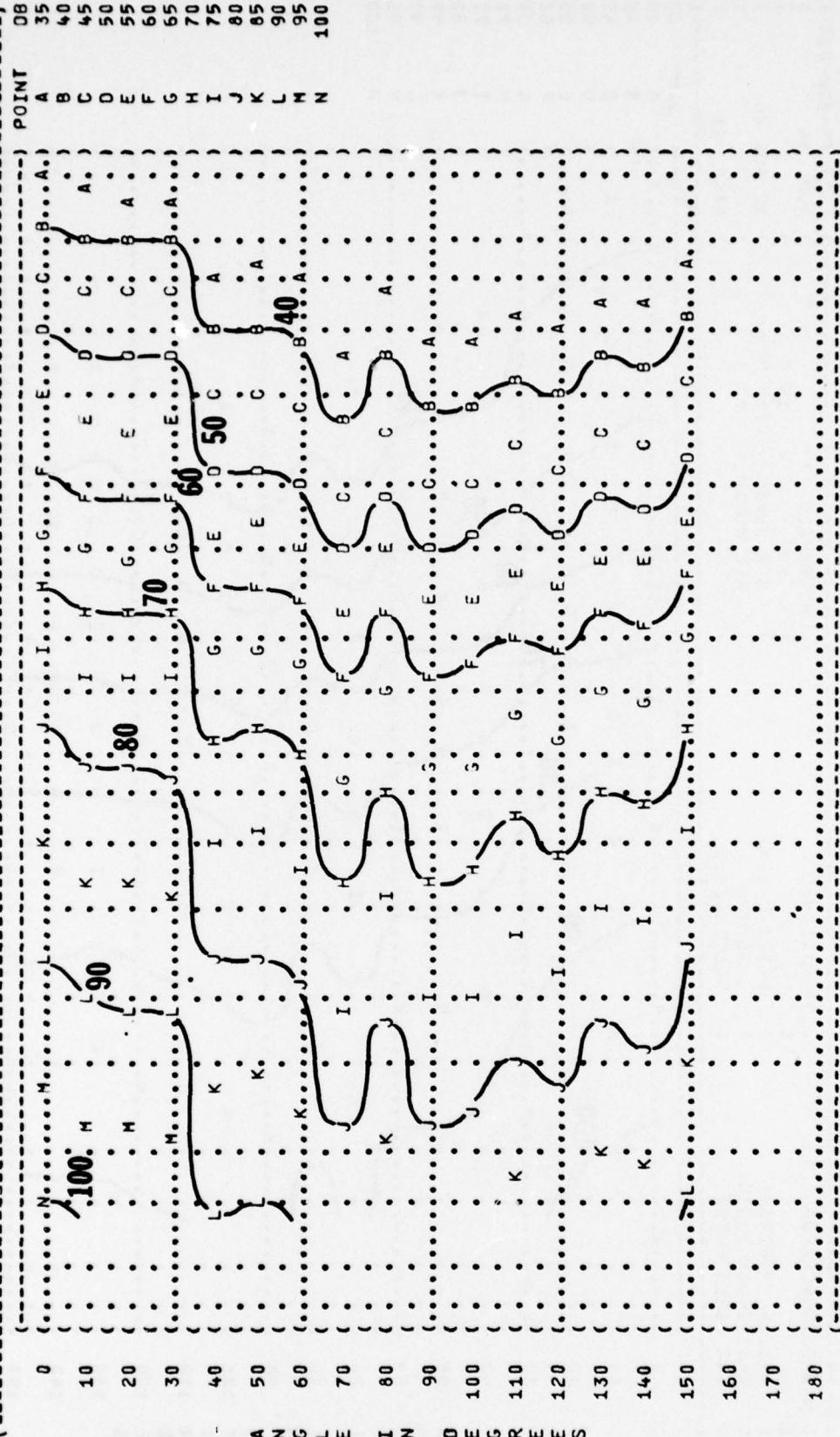
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DISTANCE FROM SOURCE (METERS)

(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 250 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (C-121G AIRCRAFT (POWER CHECK
 (R-3350-93A ENGINE (2050 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019
 (RUN 04
 (12 AUG 76
 (PAGE 21

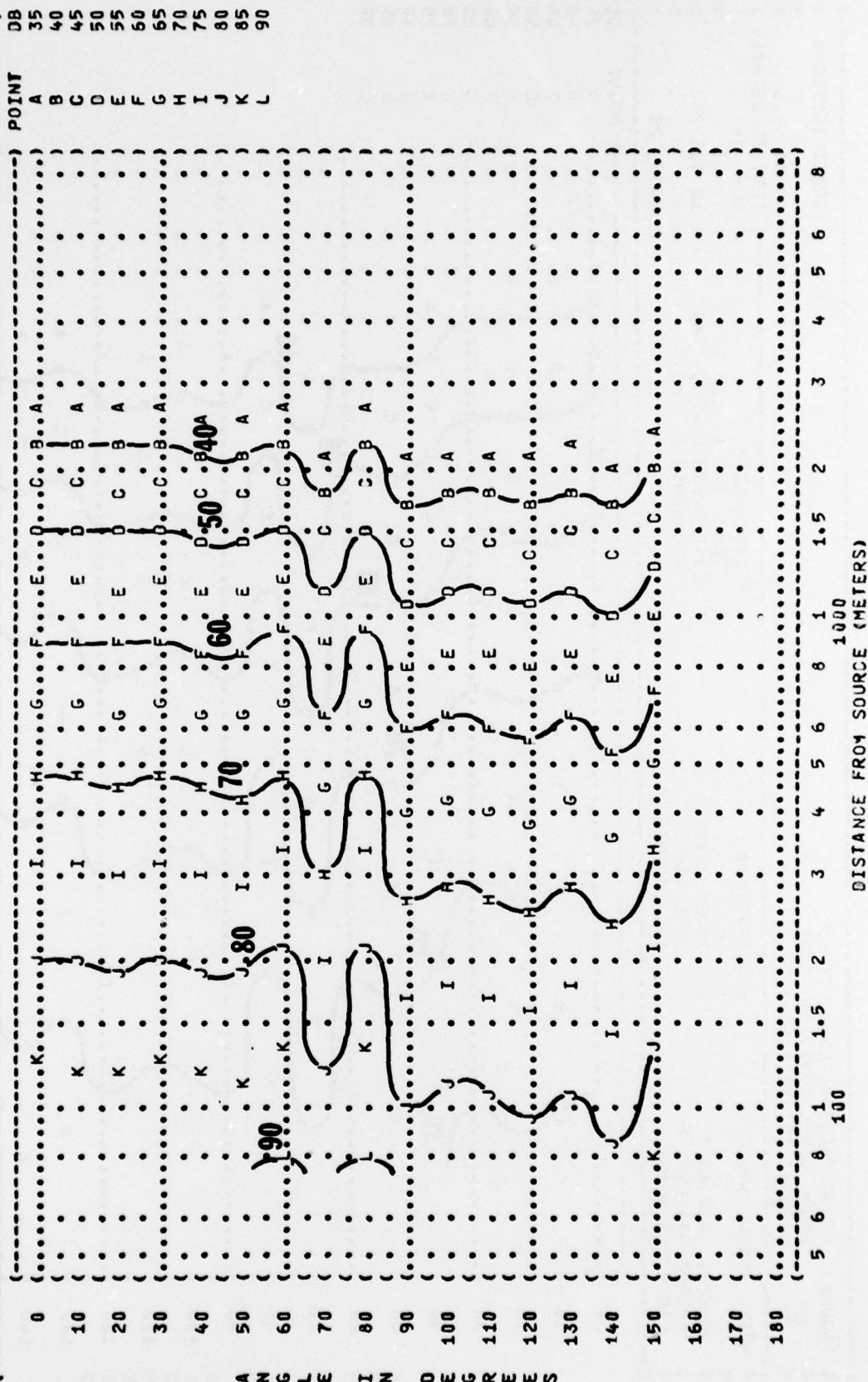


(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 500 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION: (METEOROLOGY: (IDENTIFICATION: ()
 (C-121G AIRCRAFT (POWER CHECK (TEMP = 15 C (OMEGA 1.4
 (R-3350-93A ENGINE (2050 RPM (BAR PRESS = .760 M HG (TEST 75-002-019
 (FAR FIELD NOISE (ALL ENGINES (REL HUMID = 70 % (RUN 04
 (((((12 AUG 76 ()
 (((((PAGE 22 ()

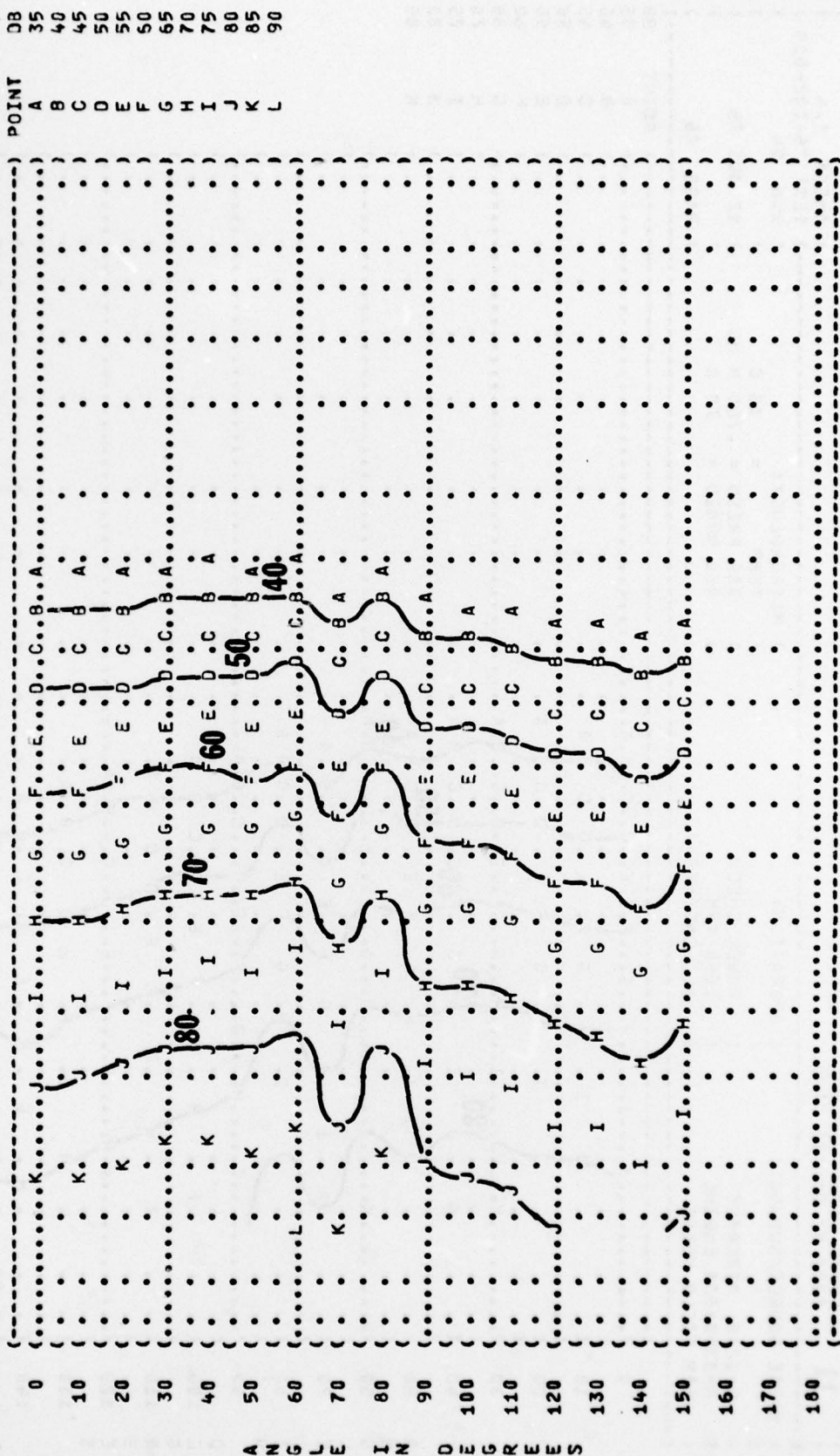


DISTANCE FROM SOURCE (METERS)

(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (11 EQUAL LEVEL CONTOURS (DB))
 (2000 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (C-121G AIRCRAFT)
 (R-3350-93A ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (POWER CHECK)
 (2050 RPM)
 (ALL ENGINES)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-019)
 (RUN 04)
 (12 AUG 76)
 (PAGE 24)



(FIGURE: SOUND PRESSURE LEVEL (SPL))
 (11 EQUAL LEVEL CONTOURS (DB))
 (4000 HZ OCTAVE BAND)
 (NOISE SOURCE/SUBJECT:)
 (C-121G AIRCRAFT)
 (R-3350-93A ENGINE)
 (FAR FIELD NOISE)
 (OPERATION:)
 (POWER CHECK)
 (2050 RPM)
 (ALL ENGINES)
 (METEOROLOGY:)
 (TEMP = 15 C)
 (BAR PRESS = .760 M HG)
 (REL HUMID = 70 %)
 (IDENTIFICATION:)
 (OMEGA 1.4)
 (TEST 75-002-019)
 (RUN 04)
 (12 AUG 76)
 (PAGE 25)



A N G L E I N D E G R E E S

FIGURE: SOUND PRESSURE LEVEL (SPL)
EQUAL LEVEL CONTOURS (DB)
31.5 HZ OCTAVE BAND

11

IDENTIFICATION:
OMEGA 1.4
TEST 75-002-019
RUN 05
12 AUG 76
PAGE 18

NOISE SOURCE/SUBJECT:

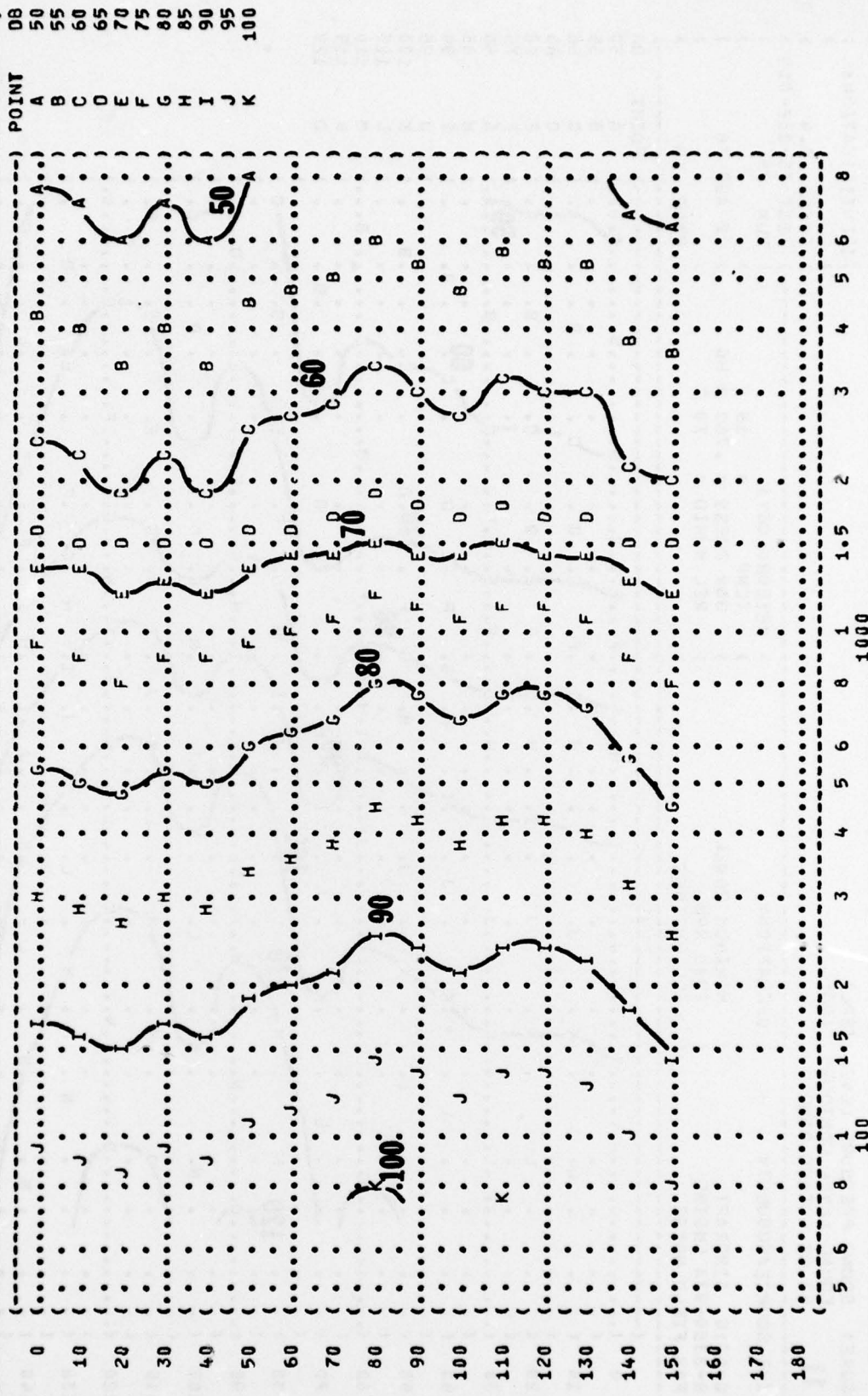
C-121G AIRCRAFT
R-3350-93A ENGINE
FAR FIELD NOISE

OPERATION:

MAXIMUM POWER
2900 RPM
ALL ENGINES

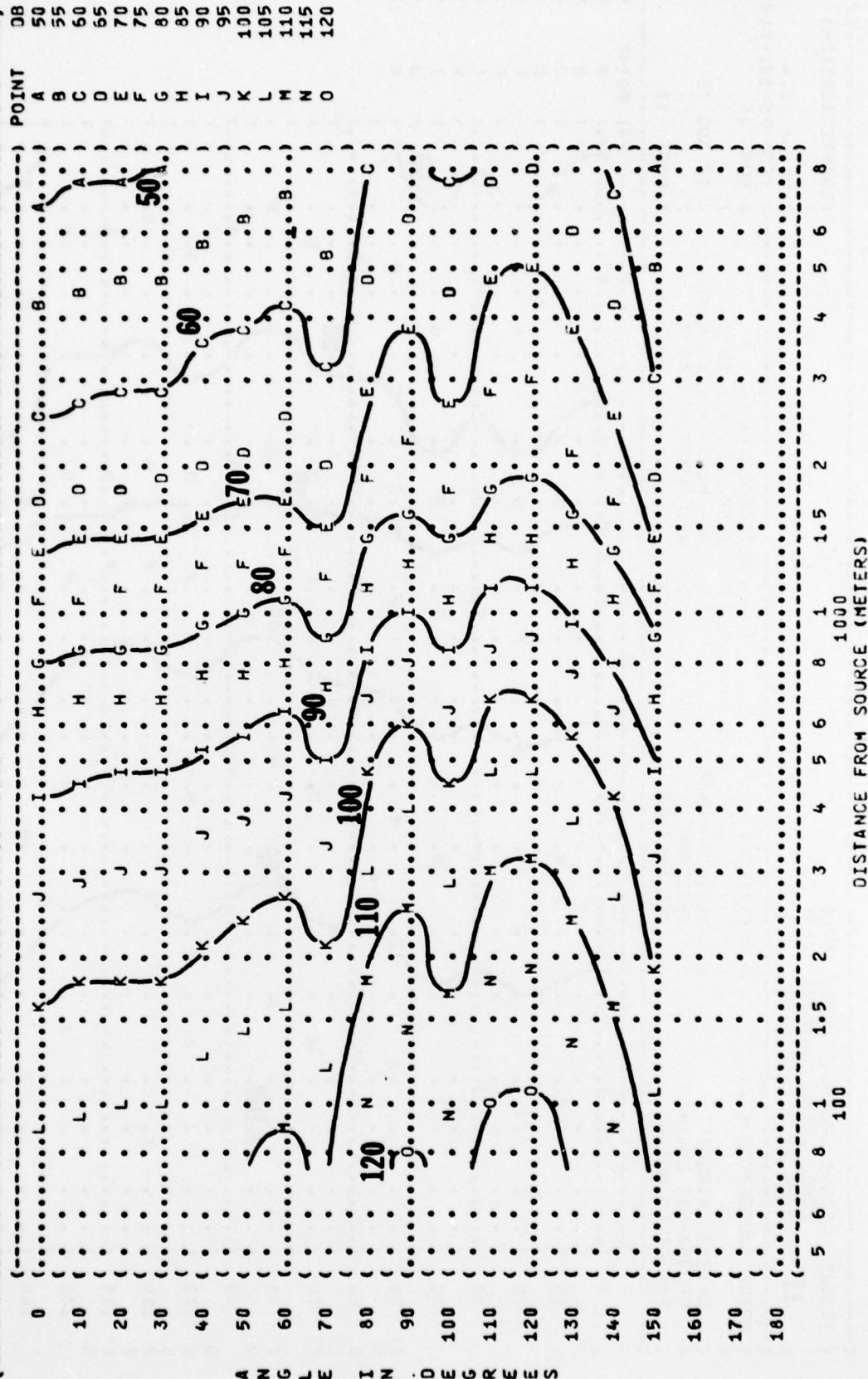
METEOROLOGY:

TEMP = 15 C
BAR PRESS = .760 M HG
REL HUMID = 70 %



ANGL EINS D E G R E E S

((FIGURE: SOUND PRESSURE LEVEL (SPL)
 ((EQUAL LEVEL CONTOURS (DB)
 ((11 63 HZ OCTAVE BAND
 ((NOISE SOURCE/SUBJECT: (OPERATION:
 ((C-121G AIRCRAFT (MAXIMUM POWER
 ((R-3350-93A ENGINE (2900 RPM
 ((FAR FIELD NOISE (ALL ENGINES
 ((METEOROLOGY:
 ((TEMP = 15 C
 ((BAR PRESS = .760 M HG
 ((REL HUMID = 70 %
 ((IDENTIFICATION:
 ((OMEGA 1.4
 ((TEST 75-002-019
 ((RUN 05
 ((12 AUG 76
 ((PAGE 19



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (11 EQUAL LEVEL CONTOURS (DB)
 (125 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT:
 ((OPERATION:
 ((C-121G AIRCRAFT
 ((R-3350-93A ENGINE
 ((FAR FIELD NOISE
 ((METEOROLOGY:
 ((TEMP = 15 C
 ((BAR PRESS = .760 M HG
 ((REL HUMID = 70 %
 ((IDENTIFICATION:
 ((OMEGA 1.4
 ((TEST 75-002-019
 ((RUN 05
 ((12 AUG 76
 ((PAGE 20

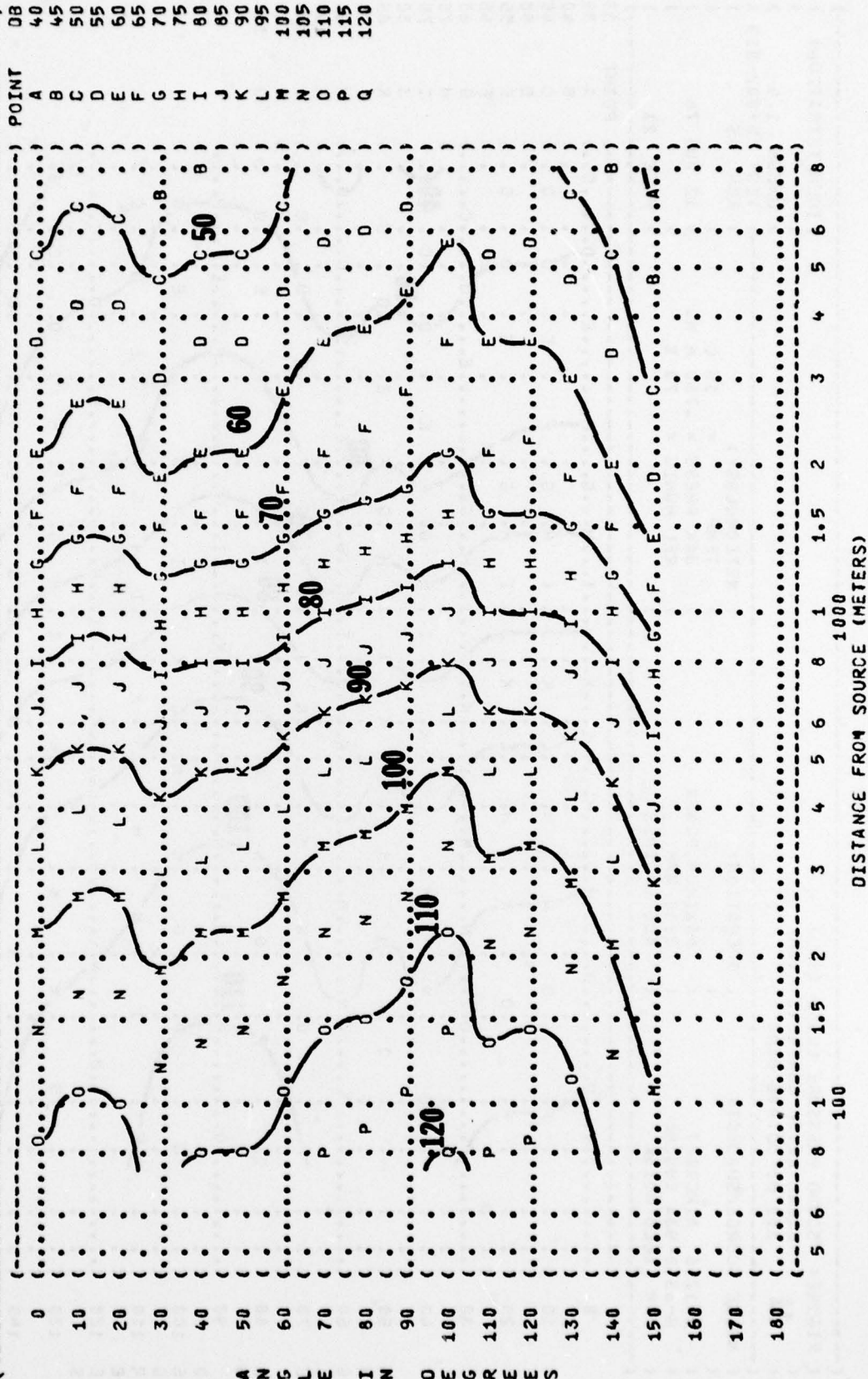
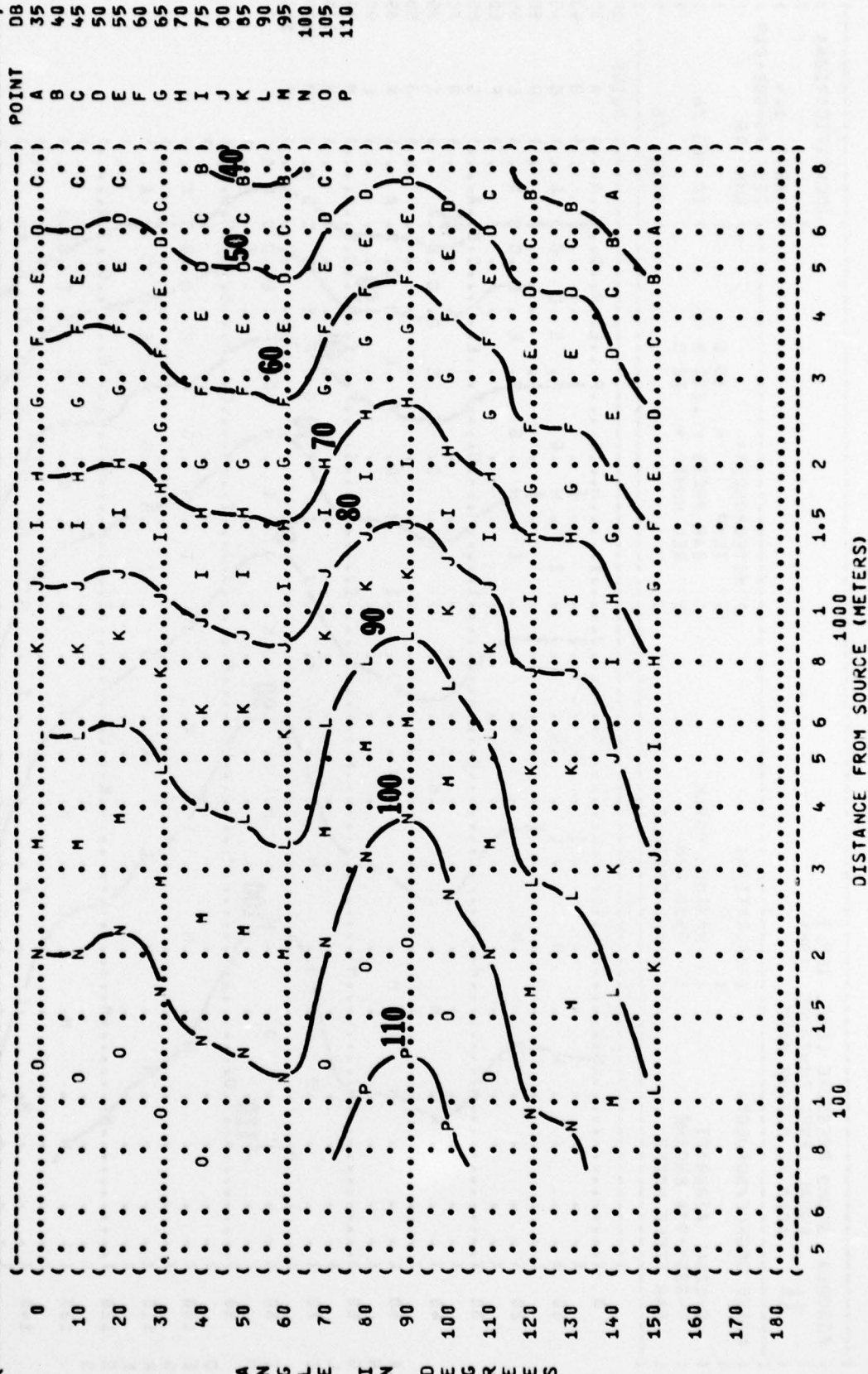
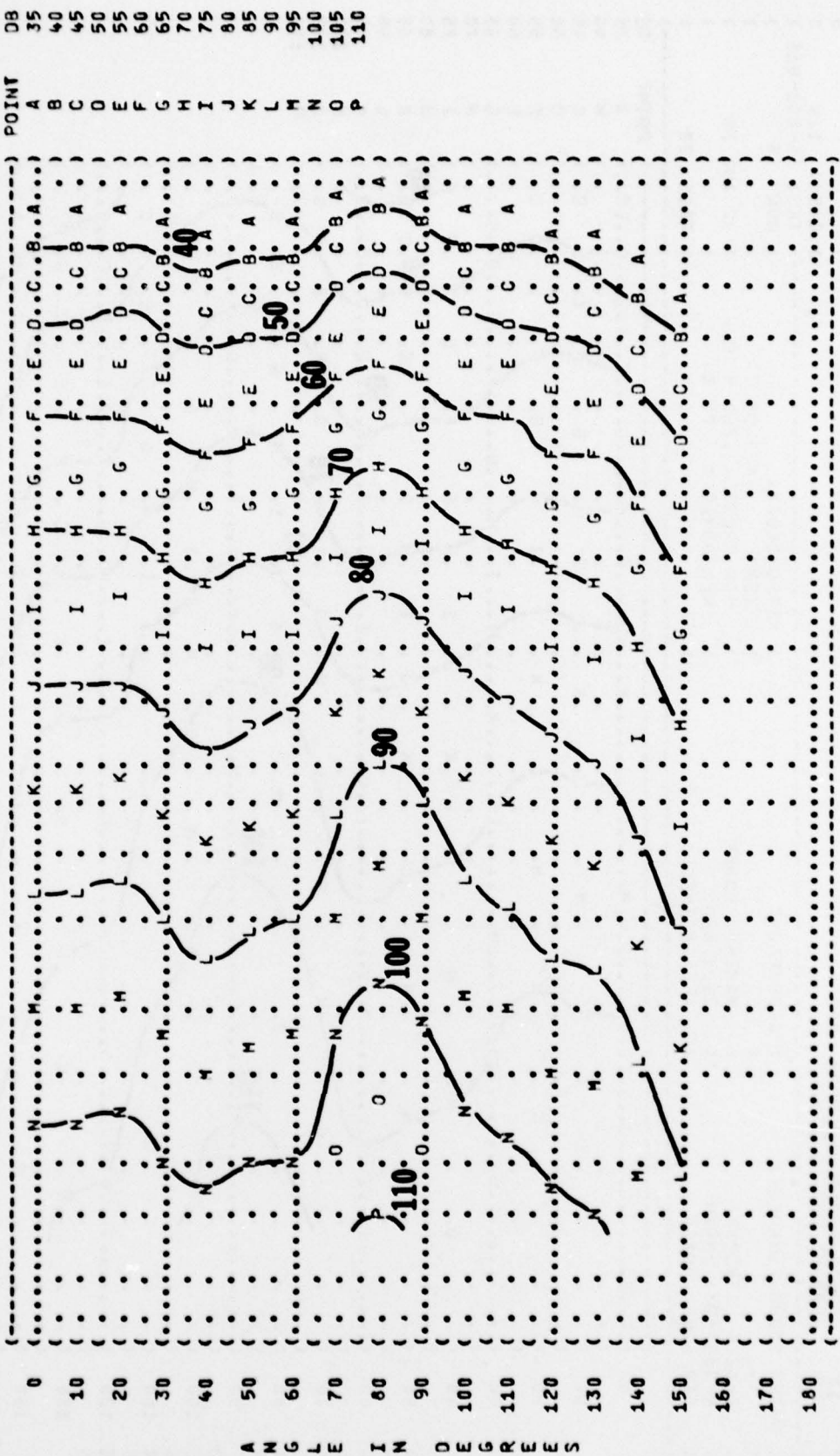


FIGURE: SOUND PRESSURE LEVEL {SPL}	IDENTIFICATION:
EQUAL LEVEL CONTOURS (DB)	
500 HZ OCTAVE BAND	
11	OMEGA 1.4
	TEST 75-002-019
	RUN 05
NOISE SOURCE/SUBJECT:	METEOROLOGY:
	TEMP = 15 C
C-121G AIRCRAFT	MAXIMUM POWER
R-3350-93A ENGINE	BAR PRESS = .760 M HG
FAR FIELD NOISE	2900 RPM
	REL HUMID = 70 %
	ALL ENGINES
	PAGE 22

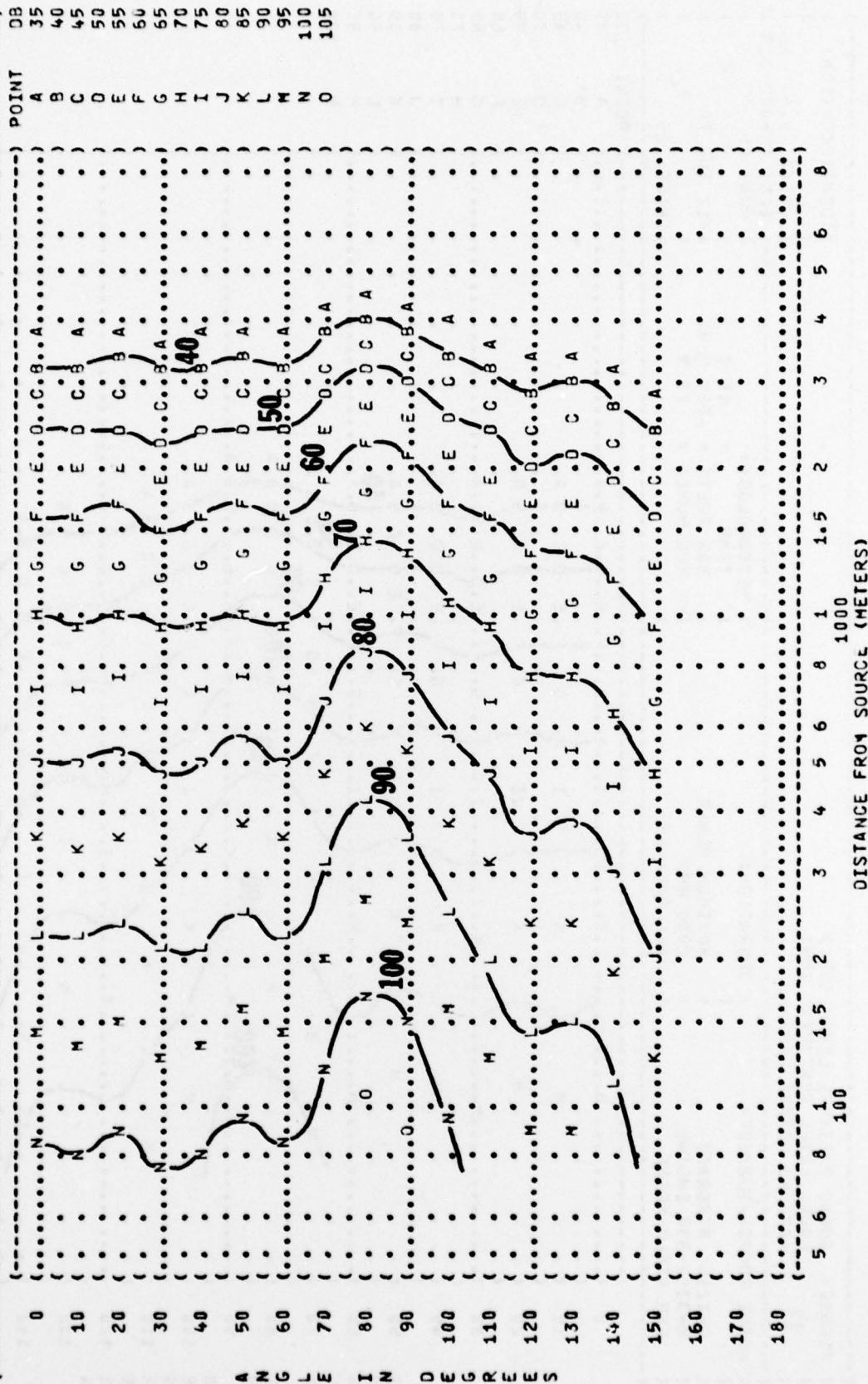


(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 1000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (C-121G AIRCRAFT (MAXIMUM POWER
 (R-3350-93A ENGINE (2900 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (NOISE SOURCE/SUBJECT: (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (12 AUG 76
 (PAGE 23
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019
 (RUN 05

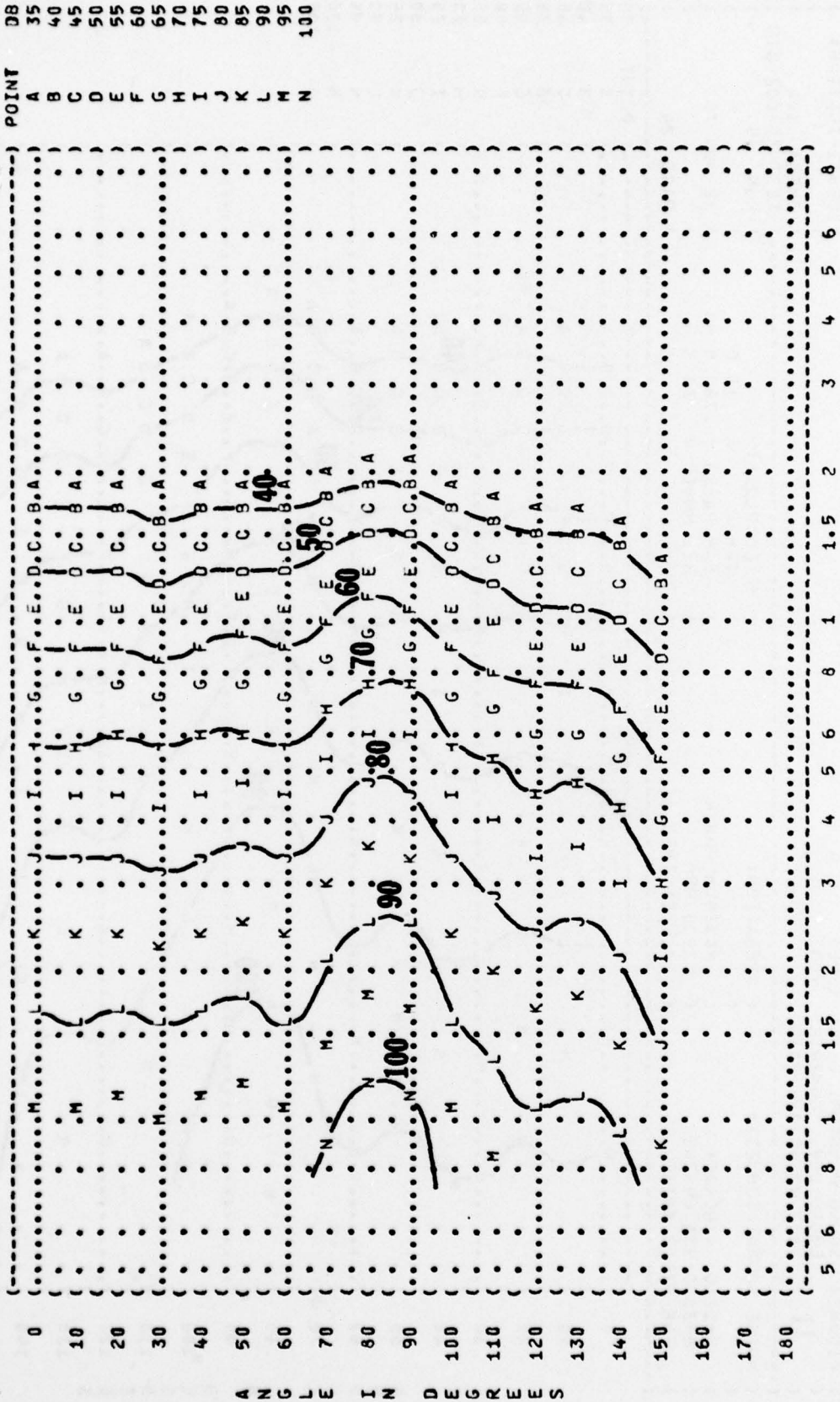


DISTANCE FROM SOURCE (METERS)

(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 2000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (C-121G AIRCRAFT (MAXIMUM POWER
 (R-3350-93A ENGINE (2900 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY:
 (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION:
 (OMEGA 1.4
 (TEST 75-002-019
 (RUN 05
 (12 AUG 76
 (PAGE 24



(FIGURE: SOUND PRESSURE LEVEL (SPL)
 (EQUAL LEVEL CONTOURS (DB)
 (11 4000 HZ OCTAVE BAND
 (NOISE SOURCE/SUBJECT: (OPERATION:
 (C-121G AIRCRAFT (MAXIMUM POWER
 (R-3350-93A ENGINE (2900 RPM
 (FAR FIELD NOISE (ALL ENGINES
 (METEOROLOGY: (TEMP = 15 C
 (BAR PRESS = .760 M HG
 (REL HUMID = 70 %
 (IDENTIFICATION: (OMEGA 1.4
 (TEST 75-002-019
 (RUN 05
 (12 AUG 76
 (PAGE 25



DISTANCE FROM SOURCE (METERS)

